Gas Journal

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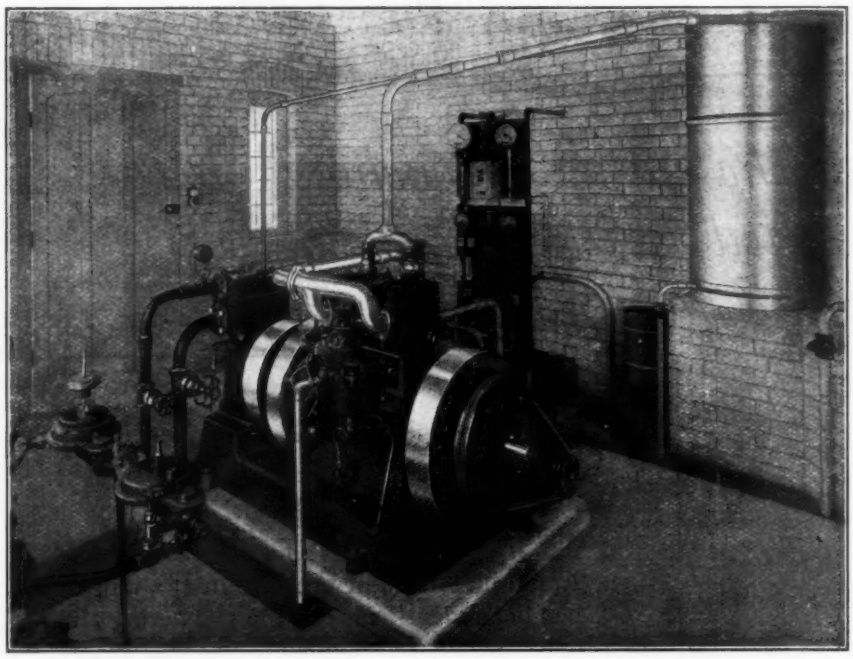

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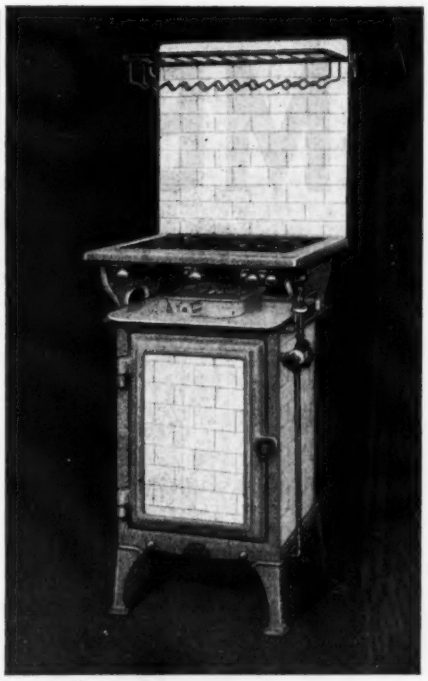

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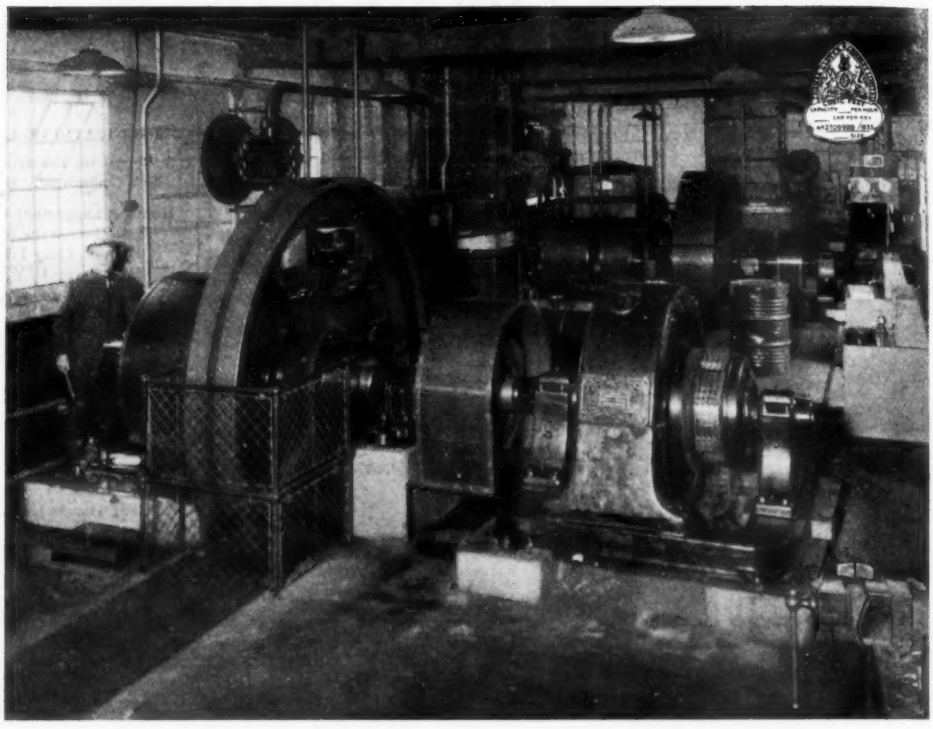

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Gas Journal

OCTOBER 9, 1935

Vol. 212. 87th Year No. 3777

Editorial Notes

The Gas Year

In its new stiff paper jacket, of an unobtrusive grey, Part I. of the Board of Trade Return relating to all authorized gas undertakings in Great Britain for 1934 [H.M. Stationery Office, price 4s. 6d. net], which deals with the Manufacture and Supply of Gas, has now made its appearance; but, unfortunately, while it has gained in dignity by this departure, it is showing some tendency to lose in timeliness. Perhaps the difficulties of compilation have increased, but whatever may be the reason the fact remains that a few years ago these statistics were available at an appreciably earlier date than is now the case. And, of course, the figures are always awaited with eagerness by those interested.

We have in the past deplored the fact that each succeeding month brings its announcement in the newspapers of the country regarding the quantity of electricity generated or sold in the preceding period, whereas gas receives a small measure of similar publicity only at much longer intervals. Let us, therefore, make the utmost we can of the statistics that are offered in the annual Board of Trade Return. There is material sufficient for several good stories for the public through the various channels for propaganda which are at the disposal of members of the Industry individually and collectively.

In the first place, there falls to be recorded on the present occasion some increase (4,520 million cu.ft.) in the quantity of gas sold. Not a large percentage increase, it is true—not a gain which should induce any slackening of effort to scale still further heights—but still something on the right side. We have not yet quite got back to the high-water mark of 1929, but we are practically back to the next best figure which has been registered—that for 1931. Industrial depression and weather conditions were adverse influences which brought gas sales down in 1932 and 1933, though to only a small extent in 1932, and to an even smaller degree in the year following. Actually, in millions of cubic feet, the total quantities of gas sold during the past four years have been as follows: 1931, 290,693; 1932, 286,988; 1933, 286,144; and 1934, 290,664. As a matter of fact, the decrease in the total sales in 1933, as compared with 1932—namely, 844 million cu.ft.—amounted to no more than 0·3%; and during 1934 this trivial loss was turned into an increase in the quantity of gas sold of 1·6%. As we have said, this is not a large gain—no more, perhaps, than might have been expected from the operation of favouring factors. Chief among these has been the gradually improving trade position, which has bettered the living conditions of large numbers of people, besides affording opportunities for the use of greater quantities of gas in manufacturing operations and trade.

The year which is now drawing to a close has presented these opportunities in extended degree, and never has the Industry appeared to be more vigorous or progressive. So that—leaving out of account any catastrophic events which at the moment there seems no reason to contemplate—we can with every justification look forward to still better figures in the Return for 1935. But as there is no finality, so there will be no relaxation of effort.

More Gas Sold

The number of authorized gas undertakings included in the present Board of Trade Return is 726. During the year the Harpenden undertaking was absorbed by the Watford and St. Albans Gas Company, and there were other small variations, but the result was merely a reduction of one in the total. In other directions, increases are the general rule, though there is one instance in which the smallness of this increase affords reason for congratulation—that is to say, while the increase in the quantity of gas sold in 1934, compared with 1933, amounted, as already stated, to 1·6% (4,520 million cu.ft.), the increase in the quantity of gas made, including gas bought from coke ovens, was only 1·3% (3,989 millions). This result has been secured on a larger distributive system; the length of gas mains having been 56,928 miles in 1934, as compared with 54,916 miles in 1933. The total number of therms sold by all the authorized undertakings in 1934 was 1,382,728,861, this figure including an estimate for those concerns not authorized to charge on a thermal basis. The number of therms sold in 1933, calculated similarly, was 1,366,011,600.

Whereas in 1933 the make of water gas showed an increase, and that of coal gas a decrease, in 1934 the movements were reversed. That is to say, an increase of 7,939 million cu.ft., or 3·2%, occurred in the quantity of coal gas made, but the quantity of water gas produced decreased by 6,626 million cu.ft., or 16·9%. The effect of this was that the quantity of coal carbonized was 423,000 tons more than in 1933, while the quantities of coke and oil used in the manufacture of water gas were less by 129,000 tons and 13,843,000 gallons respectively. Actually, the materials used in making gas in 1934 were: Coal carbonized, 17,137,000 tons; coke for water and producer gas, 620,000 tons; and oil for car-

buretting, 40,296,000 gallons. The production was: From the carbonization of coal, 257,118,239,000 cu.ft.; water gas made in separate generators, 32,610,918,000 cu.ft.; total made (including coke-oven gas), 313,546,000,000 cu.ft. The few alterations in declared calorific value which were made during the year were all in an upward direction.

Market conditions in regard to products other than gas are reflected by the figures concerning coke, tar, and sulphate of ammonia. In regard to the quantity of coke and breeze made, this was greater by over 300,000 tons, while the tar made increased by the remarkable amount of 5,983,000 gallons. Never since the Return has been compiled has such a quantity of tar been produced. Even in the record year of 1929, when 750,000 tons more coal was carbonized, the make of tar did not reach the 1934 figure. As for sulphate of ammonia, there was a small increase of 5,313 tons.

On the works side, there is another feature of the Return which is of special interest—the increased quantities of gas which are year by year shown to have been taken from coke-oven works for sale by gas undertakings. It is seen that, whereas in 1921 the quantity of coke-oven gas purchased by 14 authorized gas undertakings was 1,325,027,000 cu.ft., 33 undertakings in 1934 bought 18,194,054,000 cu.ft. This last-named figure was about 1,867 million cu.ft., or 11·4%, more than in 1933. The Sheffield Gas Company remains the biggest purchaser of this gas; the Newcastle-upon-Tyne and Gateshead Gas Company coming next with something less than one-half the amount.

A Broadened Basis

THE basis upon which the Gas Industry rests is ever being broadened by increases in the number of consumers, which, after all, may reasonably be regarded as the greatest factor of safety. So long as more people continue to come along to take gas, the first step in business has been achieved, and we therefore regard these annual increments with much satisfaction. The field is there, in ever-growing extent, for the distribution departments to plough—always with their eyes on the next step, which is an increase of consumption per consumer. There were in 1934 over 10¼ million consumers. Think what one additional gas-using appliance per consumer would mean to the Industry; and with labour-saving homes, improved apparatus, and new uses, such an achievement should not be outside the realms of possibility. It ought, indeed, to represent the minimum to be aimed at.

The Return shows that the total number of consumers increased during 1934 by 264,631, or 2·6%; but on this occasion the whole of the gain, and more, has been among the prepayment class—ordinary consumers showing a drop of about 30,000. Here, again, the prepayment consumers may not include the largest users of gas, but nevertheless they constitute a solid foundation upon which to build. These consumers have outnumbered the ordinary ones for many years past, and now they number more than half as many again—that is to say, there were at the end of 1934 no fewer than 6,312,760 prepayment to set against 3,964,250 ordinary consumers. In the quantities of gas sold, the proportions are, of course, far different; for, while the prepayment consumers account for 112,481 million cu.ft., other consumers took 159,998 millions.

According to a footnote in the Return before us, the latter figure included a certain amount of gas supplied separately for industrial purposes only. Checking over the figures, it will be clear that the reference to the footnote has been accidentally misplaced. The quantity involved, however, is specified in another portion of the Return, and is included in the total quantity of gas sold—290,664 million cu.ft. The amount of gas supplied for industrial purposes only through a separate main, in pursuance of the provisions of a Special Act or Order, is set out for the first time on the present occasion in a table, from which it is seen that in 1934 six undertakings supplied in this manner 5,543 million cu.ft., but of this no less than 4,641 millions were furnished by the South Staffordshire Mond Gas Company. The other substantial contributors were the Rotherham Corporation (380 millions) and the Swinton and Mexborough Gas Board (377 millions). Smaller quantities of industrial gas were so supplied by the Chesterfield Corporation, the Sheffield Gas Company, and the Wombwell Urban District Council.

Lastly we turn to the vexed point of public lighting, and here, again, we find cause for solid satisfaction. The progress which has been marked for many years past (with one single exception) was fully maintained in 1934, when 12,640 million cu.ft. of gas was sold to local authorities for public lamps, as compared with 12,242 millions in 1933. The importance of good street lighting from the point of view of the public has been much stressed of late—though by no means too much. The figures here quoted should convince readers of its importance also from the point of view of the Gas Industry. Unless we are greatly mistaken there will be plenty of extended public lighting contracts going in the not very distant future, and it is our desire that the Industry should secure everything in this way to which the eminent suitability of gas for such a purpose so abundantly entitles it. There can hardly be better propaganda than the best public lighting by gas.

The Gas Light's Tariff

IN the "JOURNAL" last week we published the first intimation that the Gas Light and Coke Company had adopted an optional two-part tariff to apply to all classes of domestic consumer throughout the whole of the Company's vast area of supply. It is, of course, an announcement of the greatest interest and importance to the Gas Industry, and, we suggest, it should cause all adhering to the policy of the flat rate as the sole method of charge to think once again about a change. After all, if the Gas Light and Coke Company, with a hundred and one complications which do not apply to other concerns, can evolve a reasonable and attractive tariff calculated to encourage sales and put this into effect, it becomes more difficult to appreciate why undertakings in general are reluctant to carry through a similar policy.

As stated in our columns last week, the tariff consists of a prepaid service charge and then a commodity charge less by 4·6d. per therm than the ordinary flat rate in force. It means that in the Gas Light and Coke Company's main area the price for gas under the new scheme is 4d. per therm—at which price the consumer can afford to substitute gas for solid fuel for space heating and water heating—indeed for every domestic purpose. It makes available to all the cleanliness, convenience, and other advantages of gas which it is unnecessary to enumerate here. When for a moment one considers the Company's area of supply, with districts so widely divergent—indeed, uniquely divergent—in nature, it will be appreciated that the task of deciding on a two-part tariff applicable to Mayfair and equally applicable to, say, Hackney, and taking stock of supply conditions in Suburbia, was no light one. It entailed the closest investigation of a large number of consumers' accounts, their analysis in relation to the districts served, with the object of arriv-

ing at a single, and equitable, form of tariff acceptable to every class of domestic consumer while at the same time being simple to apply.

In the result we have a service charge embodying two factors—rateable value and number of rooms. A differentiation is, however, made between houses and flats. Announcing the Company's new move on Wednesday last, the Governor, Sir David Milne-Watson, used to explain the proposition the phrase " Much more gas for a little more money." And he went on to say that the new tariff gives people the chance of making their houses really comfortable at what may without exaggeration be called bargain rates. It is a fact, of course, that never in the Company's history has there been such activity in the fixing of gas appliances as during the past twelve months, and the public's demand in this direction is growing apace. The encouraging success of the recent refrigeration campaign is a case in point. Now, with the new two-part tariff, with gas at 4d. a therm, consumers will be able to enjoy the use of these appliances to the full, and there can be no doubt that their experience will influence thousands of their friends and acquaintances to look to gas for comfort and economy. We see a busy time ahead for the manufacturers of appliances and a happier time for the gas salesman. On a later page we give examples of how the tariff affects consumers in the Company's area.

Gas Gets Its Due

PUBLIC acknowledgment by other industries of the services rendered by the Gas Industry is by no means as frequent as it should be, which makes doubly welcome the wholehearted tribute paid by Mr. S. C. Goodwin, Chairman of the Neepsend Steel and Tool Corporation, Ltd., to the valuable help his firm has received from the Sheffield Gas Company. This gratitude was expressed at the firm's annual meeting. Many industrialists, he said, were apt to overlook the great assistance rendered to them by the Company. In his own case the Company's policy of offering cheap gas to industry had enabled the Corporation to extend considerably certain of their furnaces and consequently find employment for an increasing number of workpeople. Had it not been for the Gas Company's enterprise his firm would never have dreamed of putting down the plant they had installed. Mr. Goodwin—who, by the way, has no financial interest in the Company—expressed the hope that his remarks would induce others to give the Gas Company " a step forward." Impressed by these observations the *Sheffield Telegraph* remarked that " almost all manufacturers in this city will in some measure be indebted to the Gas Undertaking of Sheffield for the unusual assistance and encouragement which is put at their disposal. . . . They will assuredly re-echo the appreciative remarks of Mr. Goodwin, realizing to the full that no city in the world is better served by its gas undertaking than theirs." This is praise indeed, and it must have been regarded by Mr. Ralph Halkett as some reward for the hard work which he and his Board of Directors have put in over a long period to foster the sale of gas for industrial purposes. It certainly is good propaganda for the whole Gas Industry.

The activities of the long-established Industrial Department of the Sheffield Gas Company have, of course, helped enormously, by co-operation with manufacturers and special research work, in the installation of industrial gas equipment—and in keeping this equipment installed. The Department has also played its part in the organization of the Industry—we refer to the Industrial Development Centres—to develop the industrial load. At the Conference of the British Commercial Gas Association Mr. W. Dieterichs, Chairman of the Technical Sub-Committee of the Industrial Centre Scheme, reported on the work of this Committee and indicated the enormous amount of good work which has been achieved since the Scheme was inaugurated a couple of years ago. It was a great pity that at the Conference no time was available for discussion of this Report, for undoubtedly such discussion would have been most valuable and most opportune. Not every undertaking, like Sheffield, can hope to gain an industrial load equivalent to more than 60% of its total output, but all manner of commercial and industrial uses exist in the areas of practically all gas undertakings. For which reason we regard it as a matter of profound regret that the Industrial Centre Scheme has not yet reached a 100% subscription list. Excluding the Bristol and Scottish Centres, the subscribing members represent only 69% of the gas make of the British Isles. On more than one occasion we have urged this 100% support and we do so again without apology.

In regard to the Centres Committee, a highly important function is to provide a link between gas undertakings and the manufacturers of industrial equipment, and there is no question but that the relations between what Mr. Dieterichs rightly regards as these " two complementary halves of the Gas Industry " have been very definitely improved since the Centre Scheme began. In his own words: " The makers now feel that their position is better understood and that the Centre Scheme will tend to give some uniformity to the policy of undertakings throughout the country. They feel that the scheme will increase the industrial use of gas and therefore the sale of gas appliances. They also realize that there is now a definite organization which will spread information about their new products throughout the country, and with which they can communicate when any misunderstanding arises between them and the Gas Industry." An example of the practical expression of this co-operative spirit was to be found in the industrial exhibit of the British Gas Federation at the Shipping, Engineering, and Machinery Exhibition recently concluded at Olympia. That exhibit represented the co-operative effort not only of all the centres and their member undertakings, but of 40 different plant manufacturers, many of them direct competitors of one another. In view of the work accomplished by the Centre Scheme it is difficult to understand the attitude of those undertakings which stand aloof and withhold their support.

Obituary

Mr. MAURICE LEES, of " Westerhill," Parkbridge, Ashton, who died on Oct. 2, aged 75, was a Director of Ashton Gas Company.

Personal

At a dinner given by the Directors of the Gloucester Gas Light Company on Sept. 25, tributes were paid to Mr. W. S. MORLAND, who retired from the position of Engineer on Sept. 30 after over half-a-century's service with the Company. Major Julian Day, Chairman of the Severn Valley Gas Corporation, presided, and was supported by the Mayor, Mr. W. H. Nicholls, and Messrs. H. Leslie Boyce, M.P., J. H. Jones, J. Morgan Matthews, G. Evetts, G. M. Gill, S. G. Wood (Directors), W. E. Vinson, Col. F. K. S. Metford, Messrs. G. N. Bruton, W. E. Tew, T. B. James (Secretary), R. W. Kershaw, R. H. Studholme, Major-General G. P. Dawnay, Col. E. S. Sinnott, Messrs. L. E. Twycross, G. F. Ticehurst, J. H. Canning, A. W. Smith, R. Robertson, C. M. D. Belton, and H. Pooley. During the course of a very enjoyable evening, which was characterized by excellent speeches, the Chairman presented Mr. Morland with a suitably inscribed salver. After expressing his thanks for the gift, Mr. Morland related

some interesting facts concerning the history of the Company.

Another testimony to the universal popularity of Mr. Morland was the presentation made to him of a wireless set by the officials and employees of the Company on Oct. 1. Speaking of the happy relations that always existed between Mr. Morland and the employees, Mr. H. Ford thanked him for his interest in connection with the provision of retiring allowances for the workmen.

* * *

A family record of service extending over 73 years was broken when Mr. FRANK OSMOND retired from the position of Engineer, Manager, and Secretary of the Dorchester Gas and Coke Company, Ltd. The late Mr. William Osmond held that position from 1862 until 1887 when he was succeeded by his son. Mr. Osmond's retirement will not mean the severance of his interest in the Company, for (states a local paper) he is to be appointed to the Board of the Company.

* * *

We are informed that Mr. THOMAS FRANCIS CANNING, M.Inst.Gas E., A.M.I.C.E., formerly Engineer and Manager to the Southend-on-Sea and District Gas Company, has been appointed Gas Engineering Assistant to the Gas Referees from Oct. 1. Mr. Canning retired from his position at Southend-on-Sea on Jan. 1, 1932, under the Agreement for the amalgamation of the Southend Company with the Gas Light and Coke Company.

* * *

We learn that Mr. DAVID L. DICKSON, the present Assistant Engineer and Manager at Cowdenbeath, has been appointed Gas Manager at Newport (Dundee). Mr. Dickson was trained in Kirkintilloch.

News in Brief

A Series of Cookery Demonstrations were recently given at Preston by Miss Edith Sanderson, of Radiation, Ltd.

Two Hundred More Street Lamps at Billericay, Essex, are to be lighted this winter by the Gas Light and Coke Company.

With this Issue of the "Journal" is published the index to Volume 211, covering the July-September quarter of the current year.

"Hot and Cold," an original entry, won first prize for the Taunton Gas Company in the trade vehicle class in the Ilminster Carnival on Oct. 3.

The Public Lighting of Chertsey has been entrusted to the Chertsey Gas Consumers' Company by the Urban District Council in competition with electricity for a further ten years.

Permission to Impose a Contingency Rate is being sought by the Sanquhar Town Council which has decided to submit the whole question of their Gas-Works to the Scottish Office.

Petrol from Coal.—The coal hydrogenation petrol plant of Imperial Chemical Industries at Billingham-on-Tees will be formally opened by Mr. Ramsay MacDonald on Tuesday, Oct. 15.

Gas-Fired Central Heating is to be employed in lieu of the present coal-fired system at the Belfast City Hall. For this purpose two boilers have been supplied by Town Gas Boilers (Bonecourt), Ltd.

An Increase in the Salary of their Engineer and Manager, Mr. Peter Low, has been agreed by the Elgin Council. This year the increase is £50 per annum which will be followed by five yearly increments of £25.

United Kingdom Gas Corporation, Ltd.—Permission has been granted to deal in the £400,000 3½% debenture stock, 229,831 4½% cumulative preference shares of £1 each, and 206,671 preferred ordinary shares of £1 each, of the United Kingdom Gas Corporation, Ltd.

Gas Refrigerators on Hire-Purchase Terms of 20 quarterly payments of £1 1s. 6d. for the smallest size; £1 11s. 9d. for the medium "popular" size; and £2 2s. 9d. for the largest size are to be sold by the Leeds Gas Department subject to the approval of the City Council.

Cheaper Gas for central heating and power purposes has been approved by the West Kirby Council from the next quarterly readings. The new charge is 6·315d. per therm, equivalent to 2s. 6d. per 1,000 cu.ft., subject to a discount of 2d. per 1,000 cu.ft. for prompt payment.

The Price of Gas in Elgin has been reduced by 2d. to 2s. 10d. per 1,000 cu.ft. for domestic purposes and 2s. 4d. for industrial purposes. This is the third reduction in successive years by this amount. The rate is now claimed to be the lowest in that area and the third lowest in Scotland.

Considerable Inconvenience was suffered in Dalkeith and district on the evening of Oct. 2 when the electric current failed, many streets and shops where electric light was used being thrown into darkness. Dalkeith Picture House programme was held up, many of the audience going home.

By Four Successive Reductions, we are informed by Mr. F. N. Howes, the Engineer and Manager, the Chelmsford Gas Department has reduced the price of gas from 1s. per therm in 1930 to 9d. per therm, less 2½%, with proportionate reductions for large-scale consumers at the present time.

For Showrooms and General Offices the Truro Gas Company have acquired and are converting the Truro Exchange Buildings with a view to providing greater convenience for the public. This move has relationship to the control of the Company by the South-Western Gas and Water Corporation, Ltd.

To Augment the Supply of Gas in the Pelsall district during peak periods, the Walsall Corporation Gas Committee propose to erect a small holder on Corporation land at Leackey Lane, and they are asking the Town Council to approve acceptance of the tender of Messrs. Thomas Clayton, Sons, & Co., Ltd., of Hunslet, Leeds.

Sanction to the Borrowing of £16,825 for the purchase of the Poynton Gas-Works has been received by the Stockport Gas Committee from the Ministry of Health. The laying of the 10-in. main to Poynton has been completed. The Gas Engineer reports there will be a quantity of surplus plant at the Poynton Gas-Works which it is proposed to sell.

Sanction was Refused recently by the Irish Free State Local Government Department, who directed that electricity be made available, to the acceptance by Navan (Meath) Urban District Council of tenders from the Gas Company for installing gas in new houses. The Council adopted the suggestion of the Chairman (Mr. P. Quilty) that the choice of gas or electricity be left to the tenants individually.

An Excellent Display of Gas Appliances was recently staged by the Liverpool Gas Company at the Liverpool Building Trades Exhibition held at the Renshaw Hall. This included a comprehensive range of domestic appliances as well as larger apparatus used in big building operations. Another interesting stand was that of the Brockhouse Heater Company, Ltd., who exhibited their "Two-in-One" C.C. gas-coke fire.

The Reconstructed Gas-Works at Acres Lane, Stalybridge, was inaugurated on Saturday last in the presence of a large gathering including the Mayor of Stalybridge, Alderman G. Potts, Alderman J. W. Greenwood, Chairman, and other members of the Gas Committee, Colonel W. M. Carr, O.B.E., T.D., President of The Institution of Gas Engineers, and many other representatives of the Gas Industry. A full account of the proceedings and a description of the plant, which are unavoidably held over, will appear in next week's issue of the "JOURNAL."

At the Annual Meeting of the Colonial Gas Association, Ltd., on Oct. 2, in Melbourne, the Chairman announced the intention of the Association to offer, at the beginning of November to the existing shareholders, approximately 115,000 ordinary shares at par (sterling) on the basis of one share for every 8 preference and ordinary shares combined. Payment of these shares is to be made by instalments—viz., half on application, the balance to be due on March 31, 1936. It is understood that Australian applications will be on the basis of 25s. Australian currency equals par.

A **Protest** was recently made at a meeting of the Blackpool Town Council by Alderman Tomlinson, Chairman of the Gas Committee, against the manner in which the funds of the Gas Department were being "raided" to provide money for holiday attractions. It was time, he said, they increased considerably the reserve fund of the Gas Department. They had an Undertaking with approximately £300,000 capital, yet the reserve fund only stood at £24,000. To make matters worse, out of £24,000, a sum of £17,000 had been spent for renewals, leaving a balance on reserve of only £7,000.

The Question of Coke Oven Gas was again considered at a meeting of Glasgow Gas Committee on Sept. 27 when it was proposed that negotiations should be reopened with Messrs. Baird and Messrs. Dixon. Councillor Campbell said the Corporation had a duty to co-operate with industrialists who were trying to revive industries in the West of Scotland. It was essential that a market should be found for the surplus gas produced, and if Glasgow bought bulk supplies it could reduce the price of gas to consumers. It was finally decided that the question be delayed until a final report was received regarding the establishment of a gas grid for the West of Scotland.

Freedom of Choice was discussed recently at Fleetwood when the Council referred back for further consideration a resolution that in future any tenant of a Corporation house wishing to substitute an electric washboiler in lieu of a gas boiler already installed, or *vice versa*, be permitted to do so subject to his paying the cost of the change-over together with the hire charges for the use and maintenance of the substituted boiler. Councillor Wilkinson said he was surprised to find the Corporation charging anyone for changing over from gas, which was a non-municipal concern, to electricity, which belonged to the Corporation. He thought the Corporation would have been only too anxious to increase the sale of electricity.

Amalgamation and Grouping

Caledonian and Kilbarchan.

We learn from a local correspondent that the Caledonian Gas Corporation, Ltd., has acquired a controlling interest in the Kilbarchan Gas Company, Ltd.

Severn Valley and Broseley.

The recent offer by the Severn Valley Gas Corporation to shareholders in the Broseley Gas and Coke Company has been accepted by a substantial majority of the shareholders of that Company.

Councillor Walter Muter on Smokeless Fuel

Probable Edinburgh Developments

Councillor Walter Muter, Convener of the Gas Committee, at a meeting of the Edinburgh Town Council on Sept. 27, gave a hint of big developments at Granton in the near future for the production of smokeless fuel.

The Council approved of a new scale of reduced gas charges, as recommended by the Public Utilities Committee. Councillor Muter said that they hoped by this time next year to be in a position to have placed their gas charges on a scientific foundation once and for all. The value of the present concession, taken in conjunction with last year's review of charges, made a total cost to the Gas Department of roughly £35,000 a year. That was a very dangerous concession to the gas consumer.

In reply to a question, Councillor Muter said there had been an unprecedented demand for coke by the Scandinavian countries, which, unlike ourselves, believed in complete smoke abatement. There had been a hardening of prices at all the Scandinavian ports, with the result that the Edinburgh Gas Department had had a great clearance. The Department was now on the lowest possible stock, and would have difficulty in meeting its shipment demands within the next few weeks. "The Gas Industry," added Councillor Muter, "has probably got to address itself to the question of the production of a smokeless fuel. Our Engineer and Manager, in conjunction with the experts of the Fuel Research Board at Greenwich, has carried out a series of remarkable experiments at Granton in the weathering of coal. Our chemist is busy to-day on the treatment of these various samples. I may, if I am still in my present position, have to ask next year for authority to an expenditure on a rather large scale for the production of a smokeless fuel far superior to coke."

Triumph for Gas Cooking

Another notable piece of propaganda for gas cooking was achieved by Radiation, Limited, recently. The whole of the prizewinning recipes in connection with the competition of the Milk Marketing Board were cooked with "New World" Regulo-controlled gas cookers at the Research and Demonstration Kitchen, 15, Grosvenor Place, S.W. 1, by special request of the organizers.

Mrs. Walter Elliot, wife of the Minister of Agriculture, the Lady Mayoress of London, and other notable people were present at the subsequent judging, and high praise was unanimously accorded to the perfection of the cooking of every item submitted. A feature of the tests was the noting of the "Regulo" setting for each recipe cooked, thus enabling the dishes to be cooked by all and sundry with certainty of getting perfect results.

Truly gas cooking has reached an amazing pitch of perfection.

Forthcoming Engagements

Oct.

12.—Scottish Western Junior Association.—Presidential Address of Mr. A. Bujnowski.
16.—B.C.G.A.—Executive Committee, 11 a.m.
17.—B.C.G.A.—Midlands District Conference at Wolverhampton.
17.—Eastern Counties Association.—Autumn Meeting at the Stanton Ironworks Company, near Nottingham.
17.—Southern Association (Eastern District).—Meeting at 28, Grosvenor Gardens, S.W. 1.
18.—Manchester District Association.—Meeting at Midland Hotel, Manchester, at 2.30 p.m.
18.—London and Southern Junior Association.—Presidential Address of J. M. Webber.
19.—Scottish Junior Association.—Joint Visit to Thomas Glover & Co., Ltd., Edmonton.
22.—I.G.E.—Gasholder Committee, 2.30 p.m.
26.—Western Junior Gas Association.—Meeting at Bristol.
26.—Yorkshire Junior Association.—Annual Meeting at Leeds. Address by Mr. H. Burton, of Shipley.
29.—B.C.G.A.—Eastern District Conference at Peterborough.

Nov.

4.—B.G.F.—1st Annual General Meeting, Grosvenor House, Park Lane, London, W. 1, 3 p.m.; 2nd Annual Dinner, Grosvenor House, Park Lane, London, W. 1, 7 p.m.
5.—I.G.E.—Council, 9.30 a.m.; Council, 4.30 p.m.
5 and 6.—I.G.E.—7th Autumn Research Meeting at The Institution of Mechanical Engineers, Storey's Gate, St. James' Park, S.W. 1.
6.—Manchester and District Junior Association.—Visit to Prescot. Paper by Mr. F. N. Booth and Mr. J. Fletcher.
7.—S.B.G.I.—Council Meeting, 11 a.m., followed by the Autumn General Meeting.
7.—Midland Junior Association.—Meeting. Paper by Mr. R. G. Marsh.
12.—I.G.E.—Gas Education Executive Committee, 4 p.m.
14.—Midland Association.—Autumn General Meeting, Grand Hotel, Birmingham.
14.—Southern Association (Eastern District).—Meeting at 28, Grosvenor Gardens, S.W. 1.
15.—London and Southern Junior Association.—Annual Dinner.
16.—Yorkshire Junior Association.—Meeting at Shipley. Presidential Address of Mr. J. W. Carlton.
19.—I.G.E.—Session at the 8th Public Works, Roads and Transport Congress and Exhibition, Royal Agricultural Hall, London, N. 1, 3 p.m.
22.—London and Southern Junior Association.—Meeting.
29.—I.G.E.—Liquor Effluents and Ammonia Committee, 11.15 a.m.; Joint Research Committee, 2.30 p.m.

Dec.

3.—I.G.E.—Research Executive Committee, 2.30 p.m.
4.—Manchester and District Junior Association.—Visit to Birkenhead. Paper by Mr. A. J. Walker.
5.—Midland Junior Association.—Annual Dinner.
13.—London and Southern Junior Association.—Meeting.
14.—Scottish Western Junior Association.—Meeting and Address by Mr. W. D. Rowe, of the B.C.G.A.

Particulars Relating to the Manufacture and Supply of Gas

By Authorized Gas Undertakings in Great Britain for the Year 1934

As Shown by the Board of Trade Return*

Year.	Number of Authorized Undertakings Included in Return.	Quantity of Gas. Made. Gas from Carbonization of Coal.	Made. Water Gas in Separate Generators.	Made. Total Made.	Sold. To Local Authorities for Public Lamps.	Sold. To Prepayment Consumers.	Sold. To Other Consumers.	Sold. Total Sold.	Length of Gas Mains.
		1,000 Cu.Ft.	1,000 Cu.Ft.	Million Cu.Ft.	1,000 Cu.Ft.	1,000 Cu.Ft.	1,000 Cu.Ft.	Million Cu.Ft.	Miles.
1929	771	254,797,757	46,349,019	316,419*	10,790,634	106,338,830	175,468,476	292,598	48,546
1930	767	255,336,236	39,525,450	313,046*	11,288,866	107,964,634	170,737,354	289,991	50,218
1931	749	254,350,650	40,803,280	313,753*	11,787,528	110,510,440	168,394,815	290,693	51,807
1932	734	251,018,508	38,468,132	309,336*	12,130,576	109,974,360	164,883,077	286,988	53,156
1933	727	249,179,563	39,236,880	309,557*	12,242,631	111,666,260	162,235,458	286,144	54,916
1934	726	257,118,239	32,610 918	313,546*	12,640,257	112,481,528	159,998,266†	290,664	56,928

Year.	Materials Used in Making Gas. Coal Carbonized.	Materials Used in Making Gas. Coke for Water and Producer Gas.	Materials Used in Making Gas. Oil for Carburetting.	Quantity of Residuals Made. Coke and Breeze.	Quantity of Residuals Made. Tar.	Quantity of Residuals Made. Sulphate of Ammonia.	Number of Consumers. Prepayment.	Number of Consumers. Ordinary.	Number of Consumers. Total.
	1,000 Tons.	1,000 Tons.	1,000 Gallons.	1,000 Tons.	1,000 Gallons.	Tons.			
1929	17,887	949	58,083	12,033	215,138	128,686	5,164,656	3,972,925	9,137,581
1930	17,669	790	49,073	11,913	214,762	125,443	5,354,547	3,989,287	9,343,834
1931	17,427	804	53,124	11,732	212,682	103,001	5,560,619	3,997,610	9,558,229
1932	17,001	746	51,749	11,416	211,010	75,728	5,783,449	3,989,566	9,773,015
1933	16,714	749	54,139	11,090	209,983	65,827	6,017,383	3,994,996	10,012,379
1934	17,137	620	40,296	11,396	215,966	71,140	6 312,760	3 964,250	10,277,010

* Including "Other Gas" and "Coke Oven Gas." † Including "Gas supplied separately for industrial purposes only."

* H.M. Stationery Office, Adastral House, Kingsway, W.C., or any bookseller. Price 4s. 6d. net, postage extra.

Coke Oven Gas Purchased

The following quantities of gas were bought from owners of coke ovens by authorized gas undertakings in 1934, and appear in the Board of Trade Return as sold to consumers by those undertakings:

Purchasing Undertaking.	Quantity of Gas Involved.
ENGLAND AND WALES.	1,000 Cu.Ft.
Accrington District Gas and Water Board	576,820
Ackworth, Featherstone, Purston, and Sharlston Gas Company	45,479
Burnley Corporation	540,344
Castleford and Whitwood Gaslight and Coke Company	171,552
Chesterfield Corporation	202,629
Clay Cross Gas Company, Ltd.	91,955
Derby Gas Light and Coke Company	1,201,309
Eckington and Mosborough Gas Company, Ltd.	35,000
Haslingden Union Gas Company	57,519
Houghton-le-Spring District Gas Company	84,347
Kettering Gas Company	29,083
Kidsgrove Gaslight Company	55,541
Middlesbrough Corporation	1,185,248
Newcastle-upon-Tyne and Gateshead Gas Company	2,751,475
Nottingham Corporation	740,726
Ossett Corporation	145,713
Pontypridd U.D.C.	169,455
Rawmarsh U.D.C.	82,430
Redcar Corporation	142,555
Rhymney and Aber Gas Company	267,522
Rotherham Corporation	1,132,792
Rothwell Gas Light Company	21,140
Royston and Brodsworth Gas Company	118,699
Sheffield Gas Company	6,198,480
South Yorkshire and Derbyshire Gas Company	158,149
Stocksbridge Gas Company	60,930
Sunderland Gas Company	484,814
Swinton and Mexborough Gas Board	449,896
Tudhoe and Sunderland Bridge Gas Company	17,318
Wath, Bolton, and Thurnscoe Gas Board	105,508
Wombwell U.D.C	115,057
Worsbroughdale and Worsbrough Gas Light and Coke Company, Ltd.	29,502
SCOTLAND.	
Glasgow Corporation	725,067
Total	18,194,054

The following is a comparative table of the quantities of gas bought from owners of coke ovens by authorized gas undertakings in Great Britain during the years 1929 to 1934:

Year.	Number of Purchasing Undertakings.	Quantity of Coke Oven Gas Bought.
		1,000 Cu.Ft.
1929	30	10,948,241
1930	32	13,201,351
1931	31	13,923,456
1932	32	15,441,487
1933	31	16,326,786
1934	33	18,194,054

The Gas Light's New Tariff

Typical Examples

Announcement of the new optional two-part tariff introduced by the Gas Light and Coke Company and made applicable to all domestic consumers throughout the Company's area was made in last week's "JOURNAL." Reference to the tariff is also made in our Editorial Columns to-day. Here we set out three examples showing how the tariff affects typical consumers:

(1) In the case of an automatic customer with a 5-room house, having a rateable value under £28, there is a standing charge of 9s. 9d. each collection, *plus* 6d. a therm for every therm of gas used. The effect of this is that if the customer uses more than 175 therms a year, his bill will be less under the two-part tariff than on the flat rate. He will, in fact, save 4·6d. on every therm he uses over and above the 175 therms.

(2) An ordinary customer with a 5-room house, having a rateable value under £28 must pay a standing charge of £1 per quarter (including meter rent), *plus* 4d. a therm for every therm of gas he uses. The effect of this is that if he uses more than 175 therms a year, his bill will be less under the two-part tariff than on the flat rate. So he, too, saves 4·6d. on every therm he uses over and above the 175 therms.

(3) An ordinary customer with an 8-room house, having a rateable value under £45 must pay a standing charge of £1 12s. per quarter (including meter rent), *plus* 4d. a therm for every therm of gas he uses. The effect of this is that if he uses more than 300 therms a year, his bill will be less under the two-part tariff than on the flat rate. He will, in fact, save 4·6d. on every therm he uses over and above the 300 therms.

Better Street Lighting for Edmonton

Edmonton is to have better street lighting at reduced cost.

The Tottenham and District Gas Company recently made an offer to the Council that if it would enter into an agreement with the Company for seven years from January next for public lighting, covering a minimum of 1,850 gas lamps, the Company would convert the existing two-light lamps to three-light lamps with multi-ray reflectors.

It was pointed out that the three-light lamps gave 30% more illumination and could be lighted at a reduced cost of about £3 each, which, together with reductions for lighting larger lamps in the district would bring about an annual saving of approximately £2,108. The Council also received an offer from the Northmet Company to reduce

the annual charge for existing electric street lamps (excluding the span lighting in Fore Street, Hertford Road, and Light Railway Road) by a total of £94 18s. 3d., subject to the Council giving the company sufficient additional street lighting to offset the immediate loss of revenue. The Highways Committee felt that the Gas Company's offer was the more acceptable, as improved lighting as well as an immediate saving would be secured. They recommended its acceptance, subject to the Company consenting to the term of the agreement being five instead of seven years.

At last week's meeting of the Council, however, a letter was received from the Company suggesting that the agreement should be for seven years, but that both the Council and the Company should have the option of terminating it at the end of five years on giving six months' notice. To this the Council has agreed.

Improved Street Lighting for Salford

Sanction to Loan Received

The Salford Corporation has obtained the sanction of the Ministry of Health to borrow £24,685 to cover the cost of modernizing and improving the street lighting equipment in the gas-lighted areas of the City.

When the scheme was approved by the City Council, a report as to public street lighting was submitted by the Light, Heat, and Power Committee, and the Gas Engineer, Mr. E. Crowther, expressed the opinion that the lighting was inadequate and in many cases dangerous, and quite unworthy of a City of the standing of Salford. This was chiefly due to the obsolete nature of the equipment at present in use, which failed to do justice either to the attention given to it or to the illuminant employed. He contended that the actual quantity of gas used required to be increased, although quite a moderate increase in this direction, employed to the best advantage through the medium of modern and efficient equipment, would effect a startling improvement in illumination.

The financial situation of the Gas Undertaking, he announced, called imperatively for an increase of business, and improved lighting must be provided by the agency of gas, not only because it could give service at least equal to electricity at no greater cost, but also because a conversion to electricity would involve a much heavier loss to one section of the Corporation than it would bring profit to the other.

He estimated that an improvement sufficient to meet modern requirements could be brought about without any increase in annual expenditure.

Foundry Lighting

Suitability of Gas

The foundry is a type of workshop which so many are inclined to regard as dingy that it is perhaps not surprising that the lighting is often not given the attention it deserves; on the other hand, the very nature of the work and of the materials used in founding would render all the more necessary a really adequate system of lighting. There are, of course, many well-lighted foundries throughout the country, and the fact that the industry itself is becoming more alive to the advantages of good lighting is evident, for the London Branch of the Institute of British Foundrymen invited Mr. R. W. Daniel, B.Sc. (H.M. Inspector of Factories), to read a Paper on the subject at its meeting on Wednesday, Oct. 2.

The fact must be faced, said Mr. Daniel, that many foundries were dimly-lit. Many of the larger and more modern concerns were tolerably, and a few lavishly, lit; elsewhere, very poor standards still prevailed. For foundry work different authorities might suggest different intensities of lighting; but for purposes of comparison Mr. Daniel mentioned a modest 2 foot-candles as an arbitrary minimum for effective foundry floor lighting. It must be borne in mind that the material used in the foundry was dark and that the light was fixed and could not be moved to eliminate shadows cast by projections in the depth of the moulds, &c. Few would suggest the allowance of 2 foot-candles to be generous. The general lighting of many modern factories was between 10 and 20 foot-candles, sometimes more.

Gas lighting at mains supply pressure, and at high pressure, he said, gave very satisfactory results, and some foundrymen asserted that gas light was peculiarly well suited to foundry work. In a spring works, by merely whitening the reflectors already fitted to a high-pressure gas installation, the available illumination was increased by 55%; by adding skirts and so preventing glare, the increase rose to 75%. Too often, however, the degree of perfection at first attained was not maintained. In a foundry the adherent dust and dirt might reduce the available illumination by half within a few weeks.

During the course of the discussion which followed, Mr. J. G. Clark, of the British Commercial Gas Association, emphasized that if lighting cost were included in analyses of works costs it would be appreciated that it represented a very small percentage of the total costs, and that perhaps if it were doubled or trebled it would not make very much difference to the total running costs; against that, one had to place the enormously improved output. He had been impressed by the increasing use during the past few years of gas mantles giving a light approximating to daylight, in preference to the ordinary mantles.

Mr. Daniel, in his reply, said that a very large number of people he had met were very keen on the daylight gas mantle. The cutlers and silversmiths in particular had attributed a great deal of value to the colour of incandescent gas light from the ordinary mantle, and if they were introduced to the daylight form of gas mantle they might find it even better.

Athletic and Social

South-Eastern Gas Undertakings Tennis Tournament

During the past summer, tennis players in some of the Gas Companies in the south-eastern corner of the country have derived a great deal of pleasure from the newly formed tennis tournament which they have organized among themselves. When the tournament was first suggested it was thought that perhaps some teams might experience difficulty in reaching their destination in time to play a tennis match on a Saturday afternoon. The first season was therefore more in the nature of an experiment. But in consequence of the enthusiasm shown by everyone concerned, every match was played to a conclusion.

The final was played between Maidstone and Dover on a neutral ground at Ashford. Representatives of other clubs in the competition were also present. After a very close and enjoyable match Dover won by 5 events to 3 (one not played). At the termination of the match Dover were congratulated on being the first winners of the competition. Each member of the team will be presented with a medal.

Representatives of the clubs expressed the pleasure the competition had given to those interested in it, and hoped the tournament would be as successful next season. Mr. C. L. Campbell, a member of the Hastings Club, was thanked for the efficient manner in which he had carried out the difficult duties of Hon. Secretary, and was unanimously re-elected for next season.

The following is the complete result of the competition:

1st round.—East Kent beat Sheppey; Maidstone beat Sittingbourne; Dover beat Folkestone; Hastings beat Tunbridge Wells.

2nd round.—Maidstone beat East Kent; Dover beat Hastings.

Final.—Dover beat Maidstone.

Cheaper Gas at Truro

As and from the reading of meters at Michaelmas the price of gas at Truro has been reduced to the following rates:

Ordinary Meters.

All gas in excess of 15 therms per quarter subject to a rebate of 4d. per therm (1s. 6d. per 1,000 cu.ft.), making the net price of gas 11d. per therm. Large consumers are entitled to an additional rebate of 1½d. per therm on all gas consumed in excess of 1,800 therms per quarter.

Coin Meters.

A half-yearly rebate of 2s. per 1,000 cu.ft. of gas is paid on all gas consumed in excess of 7,500 cu.ft. per half-year.

Special Contracts.

All consumers are offered special contracts at the following rates:

Ordinary Meters.—All gas at 11d. per therm *plus* a service charge of 7s. 6d. per quarter inclusive of meter rent.

Coin Meters.—Meters are set to give 20 cu.ft. of gas for a penny, a service charge of 7s. 6d. per quarter being paid in advance.

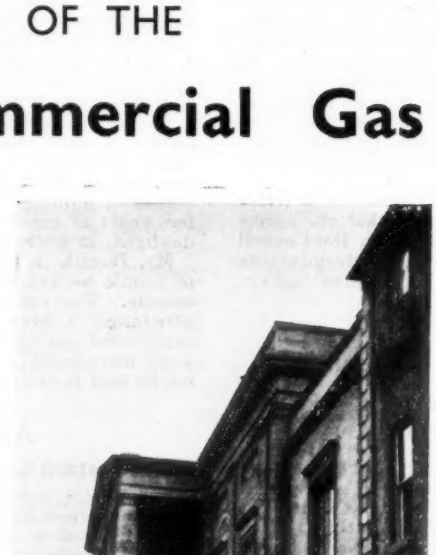
Accounts for ordinary meters are subject to a cash discount of 5% if paid by the last day of the month following each quarter day.

The reduction has been made possible by the greater efficiency in working obtained since the Truro Gas Company was acquired by the South-Western Gas and Water Corporation, Ltd.

THE CONFERENCE OF THE

British Commercial Gas Association

THE "JOURNAL" REVIEW OF THE PROCEEDINGS



The Music Hall, Edinburgh.

AT THE ASSOCIATION'S TWENTY-FOURTH NATIONAL CONFERENCE

EDINBURGH

Sept. 28—Oct. 1

Under the Presidency of Councillor Walter Muter, Convener of the Edinburgh Gas Committee.

A Super President.

Superlatives are customarily used in the description of anything connected with the Scottish capital, called at times the "Conference City." They were used more freely than ever at last week's Conference in Edinburgh, and with the sincerity and conviction of actual experience, whether in connection with the beauties of the City, its convenience as a conference venue, the warmth of welcome, the admirable programme arranged by Sir Francis Goodenough and his Staff, or the amazingly efficient conduct of affairs by Councillor Walter Muter, the President. Efficient is a hard word to use in this connection, because, efficient though his chairmanship undoubtedly was, it was exercised with such impartiality, such firmness leavened with ready wit, that he undoubtedly endeared himself to every delegate. In Councillor Muter as President the Association has indeed been fortunate. One cannot imagine him ever having to pause for exactly the right word. One can imagine him controlling without the least difficulty even a Gas Industry debate on holding companies.

Full Houses Throughout.

The Executive Chairman and his Staff must indeed have been satisfied that they had provided the right kind of fare. To have run "full houses" as they did to the very end of the Conference, and this in spite of the undeniable counter-attractions which Edinburgh offers, was undoubtedly the finest tribute they could have had to their programme, even taking into consideration the generally recognized virtue of the Gas Industry in placing business before pleasure on these occasions. There was, as far as we can recollect, only one serious complaint, and that was the crowding out of any discussion on the admirable Report of the work of the Technical Sub-Committee prepared and presented by Mr. W. Dieterichs. This, we know, was disappointing to several delegates who were ready with notes, and equally to those responsible for the Report who were hoping, no doubt, for the assistance of constructive criticism, rather than empty praise, of their work on this highly important phase of the Industry's activities. The Report is reproduced in full in later pages of this issue, and needless to say we shall be pleased to give space in this instance to what have come to be known as "written contributions," even though we do not normally regard this feature of modern conferences with the same favour as face-to-face discussion.

The last Session of all must have been particularly gratifying to Mrs. Eileen Murphy, whose activities in her own sphere in recent times have been an inspiration to so many. We appealed in a leader not long ago for male support for the "women's own" Session at Edinburgh. We believe actually that numbers of mere man found the "house full" notice displayed at the door when they arrived, and the size of the very predominantly female audience made it clear that Mr. Jamieson and the Edinburgh Gas Department have an enviable number of lady friends. The papers—or rather talks—which were given them were of a very high order, and, with such an audience, who can blame us for an occasional glance backwards from the Press table, which incidentally confirmed that the interest and attention of the good ladies of Edinburgh were held throughout.

Local Assistance.

But the collection of this audience was not by any means the only piece of organization for which the Association was indebted to the Gas Department. When the Association arrives at the place of its Annual Conference and, so to speak, takes the floor as it is bound to do, the signs of the hard work which has been put in by the local gas undertaking are not always evident. But the hard work is there all right, and no vote of thanks was more sincere, we are certain, than that proposed by Sir Francis Good-

enough to Mr. James Jamieson and his Staff, who were, if anything, more modest even than is customary with the local undertaking in such circumstances about their share in the 1935 success. The enthusiasm which greeted Sir Francis' proposition was a spontaneous and unmistakable testimony to the popularity of Mr. Jamieson, who, in returning thanks, characteristically handed on the whole of the credit to his Assistant, Mr. A. B. Munro. We will not attempt to decide in what proportion the bouquet should be divided between them, but we opine that their pleasure in the event was probably heightened, as was the pleasure of many of his old friends, by the presence at the gatherings of Mr. Jamieson's late Chief, Mr. H. H. Gracie.

Window Display Publicity.

In a recent Address on the subject of Window Display, Mr. Wm. R. Oliver, the Display Officer of the Association, remarked that there are no set rules for the formation of a successful window display, as the treatment will depend entirely upon the product, and it is quite obvious that a display of furs can be made more attractive in an artistic sense than one of, say, "gas." On the other hand, the display man by skilful treatment and wording can make the product "gas" an object of great interest.

A series of displays and exhibition units by the B.C.G.A. Studio at the Conference Hall and in a special room at the North British Hotel gave unmistakable evidence of this truism. At the Conference Hall the various fields of publicity, displays, and sales promotion were arranged in a pleasing and yet very business-like manner, and the unit embodying "Mr. Therm" who proclaimed that this was his "At Home" Day, called for many favourable comments from members.

The displays for the special interchange scheme were housed at the North British Hotel, and it was here that one was so impressed and made conscious that the uses of gas are so vital to the whole nation. As one studied the various displays—the design, artistic treatment, and message of which forced home to the onlooker the necessity of using and employing gas for many purposes, it was easy to recognize not only the work of artist and craftsman, but the mind of a salesman and showman. During the period of the Conference, Room B was very rarely without a full quota of visitors. Many delegates attended before breakfast, and on at least two evenings, 10.30 p.m. had not seen the closing down of the exhibition. The interest and enthusiasm shown by members proves beyond all doubt that window and showroom display is now recognized as a vital and necessary sales promotion factor in the Gas Industry, and may the work of the B.C.G.A. Studio develop and progress as it rightly deserves.

A Civic Reception.

A departure from custom was made this year in that the first function of the Conference took place on the Saturday. A civic reception was accorded the delegates that evening in the Assembly Rooms at George Street. The Rt. Hon. Sir William J. Thomson, LL.D. (Lord Provost), and Lady Thomson received and welcomed the guests, who included, in addition to the delegates, very many of the leading personalities of the civic, industrial, and academic life of the City. Mention was made by the Lord Provost, in the course of his Address of welcome, of the fact that the hall in which the guests were assembled was that in which Sir Walter Scott had first admitted his authorship of the Waverley Novels.

No doubt the fact that the Lord Provost is an engineer and has had many years' contact with the Gas Industry rendered the reception additionally pleasurable both to himself and his guests. That contact, he said, had given him an appreciation of the great amount of labour and research that had brought the Industry to its present high state of efficiency. He and his colleagues were glad to meet those responsible for the great developments in an Industry which, far from going out of business, had increased and prospered far beyond the most sanguine dreams of its best friends. The Association had been outstandingly successful in the achievement of its primary object—to promote the sale of gas—and the Industry was indebted to the Association for a large measure of its prosperity.

The fact that Sir Walter Scott was Chairman of a gas company in Edinburgh more than a hundred years ago, and had had a very successful gas installation at his home in Abbotsford, was also mentioned by the Lord Provost. Although a great writer, Sir Walter was not a great business man, and in 1828 the undertaking was sold at a loss to another company. The Lord Provost felt certain, however, that if the B.C.G.A. had been in existence in Scott's time he would have had a much better run for his money!

While acknowledging the compliment that the Association had paid to his colleague, Councillor Muter, whom the Lord Provost congratulated, he also congratulated the Association on the wisdom of its choice, for Councillor Muter would bring great gifts to its service. He also took the opportunity of congratulating Mr. James Jamieson, who had developed his Department on such lines that Edinburgh was proud of its Undertaking, which formed one of those magnificent assets which had raised the credit of the City to a most enviable position.

Thanks for the welcome accorded the delegates were expressed both by Councillor Muter and by Sir Francis Goodenough. The latter acknowledged the deep debt of gratitude the Gas Industry owed to Scotland, many of whose engineers had travelled south—among them being William Murdoch, who was the first to use gas as an illuminant.

On the Sunday an enjoyable day was spent in a trip round the Trossachs mainly by motor coach, although a number of those attending the Conference went in their own cars. Arrangements were made by others to play golf at various centres, and the result was that by the time the Conference proper opened on Monday morning the party was, so to speak, well together and on quite familiar terms.

Value of Conferences.

At the opening of the Business Session on Monday Councillor Muter referred to the loss the Association had suffered in the death of a Vice-President, Mr. T. H. F. Lapthorne, late Chairman of the Portsmouth Gas Company, and the members paid their respects to an old friend.

THE EXECUTIVE CHAIRMAN,

Sir FRANCIS GOODENOUGH, C.B.E.

The President next referred to greetings received from abroad, particularly from associations in America, France, and Switzerland, and then, after the adoption of the Report and Accounts had been seconded by Sir Russell Bencraft and carried, the Conference went into "public session." At this point the arrival of the Lord Provost, the Right Hon. Sir William Thomson, was greeted with acclamation.

In the course of a short speech of welcome to Edinburgh, Sir William referred to the value—sometimes disputed—of such conferences as the gathering that day. "I have heard it asked," he remarked, "even in our own Town Council—and no doubt you have also heard it in your Councils—what is the good of all these conferences and deputations so beloved of municipalities? I would answer from fairly long and wide business experience that these conferences and these visitations do an immense amount of good. Your Chairman referred to my business. As it happens I am the responsible head of a business employing some 20,000 people, and I know from experience that it pays my Companies to send our managers and our re-

presentatives not only throughout Scotland and England, but far abroad, to try and get some more information, to get better business methods, to get better plant, and to see and study how other people run their businesses. I admit that we sometimes go far afield and get very little, but on the other hand many times have I seen where half-an-hour's chat with people in the same line as yourself gives you more information than you could get in a year's correspondence or in all the papers you are likely to read. Therefore, I say to our friends, continue your conferences because undoubtedly they will pay the people you represent. I believe that you are going to discuss, among other problems, the sale of your product, and I am glad to learn from your President that foremost in your discussions will be service to your consumers. I think if we examine the records of any successful concern we will find that their success is largely based on service to their clients and in following that line I feel that the Gas Industry is just showing a continuance of that progressive spirit which has made it what it is to-day—one of the foremost and most efficient industries in our country."

The Presidential Address.

We discussed the Annual Report at some length last week, and also the next item on the Conference—Councillor Muter's opening Address. Suffice it therefore merely to add that the Conference received it with an enthusiasm which is rarely accorded even to Presidential Addresses.

THE PRESIDENT.

Major G. H. Kitson, in proposing a vote of thanks, said they could justly claim that the whole of the great Gas Industry is sincerely aiming at the three points visualized by Councillor Muter as the programme before it. "But unfortunately," he added, "the advertising which is done sometimes comes before blind eyes and falls on deaf ears. If the public would be a little more receptive and realize with what sincerity we put these programmes forward, it would benefit more perhaps than is the case at the present time. I feel, too, that business men are not all realizing that we have such excellent goods to offer. During the past two or three years the industrial appliances put forward by this great Industry have been so many and so much improved that they have not been able to keep up with what has been done. The housewife is in the same position. Her home can be revolutionized by the appliances which we are able to offer, and we are certainly, I believe, taking part in a big effort to aid in the revival of British industry."

In seconding the vote of thanks Mr. D. M. Henshaw, Chairman of the Society of British Gas Industries, emphasized the point, which has been evident in so many ways of recent times, that the members of the Society are most anxious to play their part in co-operating with all those who have the interests of the Industry at heart. "To men like our President," he said, "and those voluntary workers who attend so many meetings and give up so much of their time to carry on the work of the Association—Sir Francis Goodenough and all the Executive officers—I am sure we owe a great debt of gratitude. We all of us feel at this Conference that we are starting out on a new road of progress."

Holding Companies.

The resolution of thanks to the President for his Address was supported by Sir David Milne-Watson, who in the course of his remarks made reference to the passage in the Address on the subject of holding companies. "This," said Sir David, "is a matter in which the Industry is very much interested at the present time. There is obviously a great deal of anxiety on the question, and there is a tendency in many directions to make very free criticisms on the subject. Now, there are holding companies and holding companies, and I am not going to discuss the exact form that a holding company should take. I have said on previous occasions that it is first of all absolutely essential that they should be gas-minded. That, I think we will all agree, is absolutely essential, but of course there is always room for criticism as to what a gas-minded holding company might be. It might have its origin, possibly, in those who are not completely gas-minded, but if they become associated with those who are gas-minded you very soon, I am sure, will find the effect of the introduction of gas blood, if I might say so, into these new corporations. After all, the Gas Industry has been advised year in and year out, for almost as many years as I have been connected with it, to get on with amalgamation, and you know what has been done. A little has been done here and there. One or two companies have been formed. I can see gentlemen in this room to-day who have amalgamated concerns round about them and have increased the size of their companies, but speaking generally very little has been done. Then came along the holding companies, and very soon real amalgamations began to take place.

"The holding company of which I am Chairman has already sixteen companies, and consequently may be said to be operating in a regional area, and that line is I think the proper line for the holding companies to take. Bear in mind, however, that it is not always possible for amalgamations to begin in that way, but there is no reason whatsoever why holding companies should not have centres in different parts of the country which would act in future as headquarters for a number of other concerns all connected together. If I may say so, a mistake is made when an undertaking absorbs others completely outside its own area, but there is no reason afterwards why that should not be straightened out and these other undertakings handed over to another body operating elsewhere. I know I am talking on a very controversial subject, but I feel it my duty to urge you not to condemn holding companies lock, stock, and barrel because there are some that are not 100% perfect, and because there are faults and failures in certain directions. You will never make any progress unless you do something and no movement has ever succeeded without faults and failures.

"The latest suggestion is that we should have a body of experts to tell the Gas Industry what to do with regard to development in this matter, but there is nothing to prevent any number of gentlemen walking out of this room to-day and getting themselves together and forming a holding company or nucleus of companies. Why cannot Fife get together? The kingdom of Fife has three sides on the sea, and what is to hinder them from taking some such action. The great trouble in the Gas Industry is that there is a great clamour when nothing is done, and when somebody does something it is all wrong. We have the remedy in our own hands. We do not want a body of outside experts, half-a-dozen of them, paid £5,000 a year to tell us what to do. We can do it ourselves to-morrow if we have the courage."

The New President.

The election of President for the ensuing year was made in what Councillor Muter described as "our time-honoured and customary fashion." In other words, the scrutineers, duly elected in open meeting and unanimously, opened the ballot papers and discovered—to their astonishment or otherwise—that no votes had been cast for any other candidate except Mr. H. Stanley Taylor, Chairman of the Bath Gas Company.

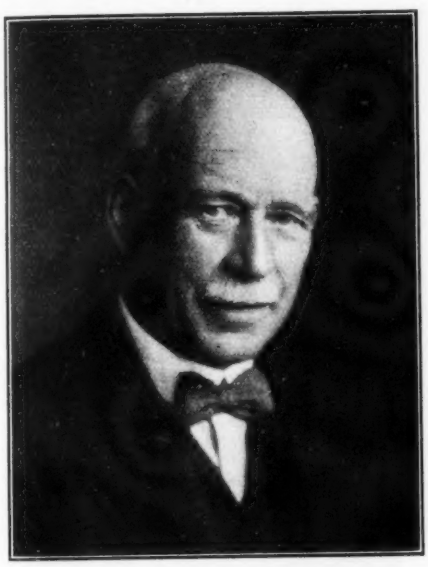
In acknowledging his election, Mr. Taylor thanked the Conference for the honour which it had bestowed on him and his Company. "I should like," he said, "to extend to the members of the Association a very hearty welcome to the city of Bath for their Conference next year. We shall be delighted to receive you, and when I say 'We,' I

mean my Company. I have had a communication from the present Mayor of our City, who, of course, may not be Mayor next year, but I understand the City will welcome you in any case with open arms. Therefore, I have very great pleasure in extending the invitation, and I hope you will all enjoy the visit to our City."

Following the election of the new President, the Chairman announced also that Messrs. Cash, Stone, & Co. had been unanimously re-elected Auditors for the ensuing year.

A Bounden Duty.

Sir William Crawford, K.B.E., was the next speaker, and his "Advertising and Public Utilities" is reported in later pages of this issue. We recommend a careful study of it by those who did not hear Sir William at the Conference, but we believe they have lost a good deal in not hearing—and seeing—it "put across" by his own galvanic personality. Fortunately no discussion was scheduled for this Address, because if Sir William Crawford declared his belief in the possibilities of, and the need for, advertising anything in the world you would not argue with



Mr. H. STANLEY TAYLOR.

him; you would be convinced. When, on the other hand, you have such a boon and a blessing as gas supply to offer mankind, it is no longer a question of expediency; you are doing the public a positive wrong if you fail to tell them about it in season and out. Such is the impression we received from Sir William's Address.

The Permanent Staff.

Following Sir William Crawford's Address, the President announced messages of regret for unavoidable absence, which were very sympathetically received, from the immediate past-President, Colonel Stephenson, of Sheffield, and Mr. C. Valon Bennett.

"The next item," said the President, "is to convey to our Staff a vote of thanks for the excellent and unremitting work that they carry on from year to year. During my year of Presidency I have had occasion to gain first-hand knowledge of the staff work of a very high order which is carried out at 28, Grosvenor Gardens. I am proposing this vote of thanks in general terms without making any invidious distinction as to individuals of a very efficient Staff which is headed by Sir Francis Goodenough and his officers, Mr. Rowe and Mr. Walker. I am sure they will convey to the other members of the Staff our appreciative thanks for their excellent work. Criticism, of course, is often directed to our work, and criticism of a helpful kind is always welcome, though criticism of a destructive character is never helpful."

In thanking the members for their vote, Mr. W. D. Rowe made the interesting announcement that 28, Grosvenor Gardens, would shortly be deprived for a time of the services of Mr. Walker, who is to spend a period in Scotland deliberating with those in charge of gas undertakings there. This work is to be undertaken in order to "establish a more intimate contact with our friends on that side of the Border." We feel sure that Scotland will give Mr. Walker a very hearty welcome.

Luncheon to the Delegates.

On the adjournment from the morning Session the delegates were entertained at luncheon in the Music Hall by the Edinburgh Corporation Gas Committee, the chair being occupied by the President of the Association in his capacity of Convener of the Gas Committee.

The Toast of "The Gas Industry" was in the hands of Mr. T. M. Cooper, K.C., M.P. (Solicitor-General for Scotland), who remarked that everyone present, whether in the character of hosts or guests—or perhaps he should say distributors or consumers—would join him in congratulating the Gas Industry upon the signal services it had been able to render to the community and in wishing the Industry all prosperity in the further expansion of its work. Borrowing the title of one of H. G. Wells's books, Mr. Cooper compressed into a phrase the ideal which it seemed to him had inspired the Gas Industry throughout its history—namely, "the conquest of climate." The Industry had turned night into day and winter into summer with a convenience, ease, and cheapness which had become proverbial. He also emphasized that among the great industries of the country the Gas Industry was in the forefront in regard to the friendliness of relations between employers and employed.

Sir David Milne-Watson, who responded to the toast, expressed pleasure at the presence of two members of His Majesty's Government—the Solicitor-General for Scotland and Mr. Ernest Brown, Minister of Labour and formerly Minister of Mines. The Gas Industry, said Sir David, was more healthy to-day than it had ever been in its long history. As the world changed so did the Gas Industry. It was always ready to meet the demands of each new generaton. If gas were twice as expensive as every other way of cooking it would still be worth the money, and, in fact, gas was easily the cheapest way of getting heat on tap. Gas had made amazing strides in recent years in supplying industries of all kinds with flexible, perfectly controlled heat. Gas in the factory had enormously improved this country's position in world trade, and it was remarkable that the more modern the industry the more varied was its demand for gas. Again, the re-housing of those still living under slum conditions was probably the most urgent social problem to-day, continued Sir David. Houses and flats had to be erected at a cost which would allow the new tenants to be able to afford the rent and also be able to light, cook, and heat very economically. Here again gas could help and was helping, and it offered to local authorities and private builders satisfactory and inexpensive appliances for doing these necessary domestic jobs. In this way the Industry was rendering an enormous service to the country at the present time. If all in the Industry kept before them those ideals—which had been the ideals of the Industry for years—they would be rendering a great service to this country. The Industry had a mission to the nation and would fulfil it.

The Toast of "Our Guests" was proposed by Councillor Fergus Harris (Chairman of the Edinburgh Public Utilities Committee), who extended a hearty welcome on behalf of the Corporation; and Mr. J. E. Cowen (a past-President of the Association), in reply, expressed the appreciation of the delegates for the hospitality which had been shown them by the Corporation during their stay in Edinburgh. Mr. Ernest Brown (Minister of Labour) proposed the health of the Corporation of Edinburgh, to which the Chairman responded.

How Market Survey Can Help.

The afternoon Session of Monday divided the Conference into two camps, since two Papers were read simultaneously in different halls. Perhaps for some the choice was difficult between "Market Survey," by Hugh Weeks, M.A., Research Manager, Cadbury Bros., Ltd., and "Modern Influences on House Design," by E. J. MacRae, F.R.I.B.A., City Architect to the City of Edinburgh. There was, of course, much of interest in each, and they are on record in full, in other columns of this issue, together with the discussions which ensued.

Mr. Weeks, in quite a different manner, was every bit as convincing as Sir William Crawford. We believe that the discussion on his Paper, too, will have convinced him more strongly than ever that a market survey would do the Gas Industry an enormous amount of good. Incidentally his parting shot was that an Industry like ours ought to be ashamed of itself if it did not undertake one!

Excellent and animated as the discussion was, it revealed to a large extent how very much we are all liable to become centred in our own affairs, whatever they may be, to such a degree that we fail to perceive fundamentals. Our feeling is that it was not entirely clear to everybody that market survey, as understood by trades which employ the experts like Mr. Weeks, has been developed on

highly scientific lines, with a very highly specialized technique for which training is required. It is true the gas undertaking whose main contact with consumers is through fitters, meter readers, maintenance staff, and so on learns a very great deal about its district. It may find, for example, that quite a number of people in a certain circle are going electric because they think that gas is out of date and electricity is essentially modern. A stupid idea, of course, but there it is, and very difficult to shift, especially as the consumer straightaway mentally labels the protesting gas man as naturally biassed in favour of gas. In any case, *how* and *why* have these consumers got such ridiculous ideas, and *why*, as Mr. A. W. Smith suggested, can they be so absurd as to base their judgment upon theses which we can positively prove are incorrect? These are only simple examples, but if market research can help to elucidate such difficulties as these and enable us to attack them from a new angle, we think the Gas Industry will be wise to look further into its possibilities, bearing in mind Mr. Weeks' reply when asked what the cost would be.

We hope the Association will be able to give early consideration to this matter. We have a feeling that market survey might supply the answer to several problems which have worried the Gas Industry long enough, and remove certain obstacles which at the moment are forming blind ends.

Contrasts in Housing Policy.

High lights in the discussion on Mr. E. J. MacRae's Paper were contributions by the President of The Institution of Gas Engineers, Colonel W. M. Carr, O.B.E., and ex-President C. S. Shapley, Leeds. Colonel Carr paid a compliment to the low rate at which Edinburgh supplies gas, and suggested to the Gas Department the desirability, when they are next contemplating a reduction, of the introduction of a tariff which will enable those " who want to use gas for heating to use it in place of solid fuel for continuous heating. . . . We could displace solid fuel by gas entirely, at a cost to the public of the United Kingdom no greater than is being paid for fuel to-day." Unfortunately Mr. Jamieson was not present to take part in this particular discussion, as it can be taken entirely for granted that Edinburgh Gas Department has given the tariff question every possible consideration, and his views would have been most interesting.

Colonel Carr also referred to the Wythenshawe housing estate where the " appalling smoke pall from 5,000 houses hanging over what used to be a beautiful area " had spoiled his favourite morning ride. This gave Mr. Shapley his cue for the recital of one of the best accounts of enlightenment we have heard for a long time. It is worth recounting in full. " In Leeds," he said, " we have a five-year plan of slum clearance, and 30,000 houses are to be built. As opposed to the general idea that one coal fire is necessary, I am in the happy position of stating that there is not one coal fire in any of these 30,000 houses. Leeds has had many housing estates, some of them a disgrace owing to the smoke pall which they throw across the city. The new estates are to be smokeless. There will be one coke fire in the houses, a triple-purpose fire that warms the living room, heats the water, and does the cooking. Incidentally, the oven is in the scullery, and the scullery gets an appreciable amount of heat from that oven. The cooking is done, when the coke fire is not required, by a gas oven. The wash-boiler is heated by gas, and there are gas plugs in every room, every room being provided with a 9-in. by 9-in. flue. Leeds, therefore, can claim that it is leading the way, as usual. The Housing Committee have recognized that ventilation is necessary. To build a house with a room without a flue is, in my opinion, a crime. I have lived in a very modern house with three bedrooms, each of which had no flue, so I speak from experience."

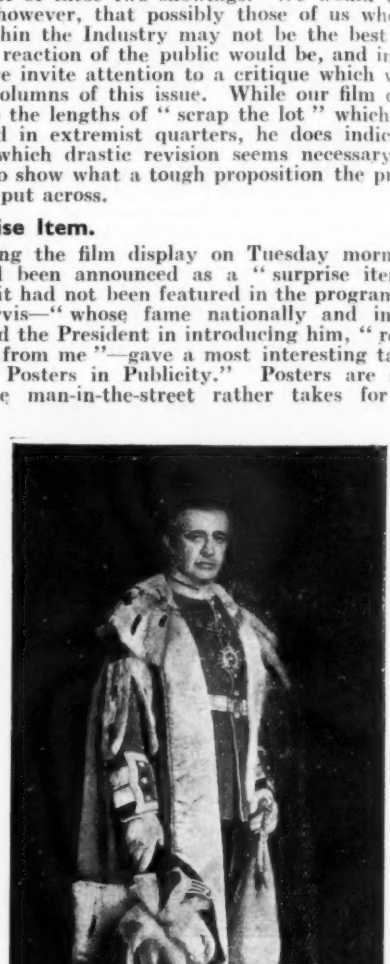
Over the remarks of Mr. Darcy-Braddell in this discussion we would fain have drawn a veil of obscurity. We allow them to darken our pages only to show the need that the Gas Industry has of the likes of Sir William Crawford and Mr. Weeks to give to the Darcy-Braddells of this world new eyes which are capable of perceiving the beauties inherent in a gasholder, not to mention an ordinary decent common-or-garden pair of feet which do not demand the elemental.

The Movies.

On Monday evening, at the North British Hotel, we were shown for the first time the new sound films which the Association have had made for the use of gas undertakings, and there was a repeat performance at the beginning of Tuesday's business Session. It was made quite clear by Mr. W. D. Rowe, who introduced the films, that they were not by any means in a final and unalterable condition, and we think that the Association will have received perhaps more than enough advice on the subject as a result of these two showings. We would venture to suggest, however, that possibly those of us who live entirely within the Industry may not be the best judges of what the reaction of the public would be, and in this connection we invite attention to a critique which we publish in later columns of this issue. While our film critic does not go to the lengths of " scrap the lot " which of course was heard in extremist quarters, he does indicate directions in which drastic revision seems necessary. And it all goes to show what a tough proposition the propaganda film is to put across.

A Surprise Item.

Following the film display on Tuesday morning came what had been announced as a " surprise item "—that is to say it had not been featured in the programme. Mr. Tom Purvis—" whose fame nationally and internationally," said the President in introducing him, " requires no reference from me "—gave a most interesting talk on the " Use of Posters in Publicity." Posters are something which the man-in-the-street rather takes for granted.



THE LORD PROVOST OF EDINBURGH,
The Rt. Hon. Sir William J. Thomson.

They appear, they disappear, no one knows how. Some we never forget; some we never even notice. It was, therefore, more than illuminating to hear and see in the flesh a real live poster artist, one, moreover, whom the President quite rightly described as of national and international fame. It is sad to reflect, when we think of some of the posters, their designs and slogans, which have in a moment impressed themselves indelibly on our minds, that the Gas Industry has been able to make so little use of this means of publicity; there is so much to do and so comparatively little cash to do it with. Let us hope that one day we shall be able to make fuller use of the happy band of artists of whom Mr. Purvis spoke, and let us hope we shall strike some real winners which will increase our consumption as the consumption of ink, international travel, and even intoxicating beverages have been increased by first-class poster advertising.

Technical Sub-Committee.

A Report on the Work of the Technical Sub-Committee followed, presented by its Chairman, Mr. W. Dieterichs, of the Gas Light and Coke Company. The Report is published in full elsewhere in this issue, and we have already referred to disappointment that time did not permit of a discussion upon it. Mr. D. M. Henshaw proposed the vote of thanks, and speaking again naturally with the S.B.G.I. in mind, he referred, with a gratification shared by all, to the splendid co-operation in this work which had been secured with manufacturers of appliances and equipment.

The Ladies.

To the Women's Session of Tuesday afternoon we have also referred already, and the contributions to the discussion are reported in full in later pages. Councillor Muter in the Chair had a comparatively easy task, since all the talking was by "set" speakers, but, as usual, he struck exactly the right note when he said: "I think I can say, without fear of contradiction, that this is the most influential gathering I have had the honour of presiding over, because the majority of the audience to-day are ladies, and notwithstanding all the efforts of our magnificent Association it is the women in the homes who are going to be our best salesmen and commercial travellers." Those words must have been particularly encouraging to Mrs. Wolseley Lewis, B.A. (Chairman), and Miss K. M. Halpin (Organizing Secretary) of the Women's Gas Council, who were present on the platform. Perhaps, too, the sentiment expressed, as well as the obvious interest displayed by the enormous audience which Edinburgh mustered for the occasion, may be an encouragement to gas undertakings who are hesitating about the formation of local branches of the W.G.C.

Finale.

The grand finale to a memorable gathering was the dinner at the North British Station Hotel given by the President and members to the retiring President and members of the City of Edinburgh Gas Committee. Here, incidentally, the new President, Mr. H. Stanley Taylor, presided for the first time, and the speeches (reported elsewhere) were first-class. The dinner ended in good time, because the Association had made arrangements for one of the largest sleeping trains which can ever have left Edinburgh to take large numbers of us back to the South. The scene was one of the greatest animation as decorous delegates in dress suits sought their bags from the piles which the hotel disgorged on the platform. As the train steamed out a cynic was heard to ask what would happen to the Gas Industry in the event of a train wreck with 100% casualty list. The end—or a completely new lease of life?

We tried to ascertain the view of the gentleman whose only available attire for arrival at King's Cross next morning was his dress suit, but he had locked himself in his berth.

Gas Undertakings' Results

Darlington.

The gas-works accounts and statistics of the Darlington Corporation show that the income from the sales of gas was £80,191, against £76,705 received last year. The total sales amounting to 598,730,000 cu.ft. represent 93·35% of the total make which was 641,389,000 cu.ft. against 634,532,000 cu.ft. in 1933-34, an increase of 6,857,000 cu.ft. Residual products are lower by £1,011, coke realizing £11,830 and tar £4,184. Total income shows an increase of £2,789 at £103,288, while expenditure, £89,015, is down by £935. The gross profit for the year amounts to £14,273, against £10,549. The net profit is £5,424, against £540. The total number of consumers is 23,206—up by 1,076—of which 10,213 use ordinary and 12,993 use prepayment meters. The coal carbonized during the year weighed 38,201 tons. The mileage of mains has increased by 10 and now stands at 156. Public lamps have also shown an increase and number 2,198.

Dumbarton.

The Dumbarton Gas Committee reports that the make of gas for the year ended May 15, 1935, was 174,118,000 cu.ft., an increase on the previous year of 262,000 cu.ft. Coal carbonized amounted to 9,273 tons against 9,159, an increase of 114 tons. The yield per ton was 18,777 cu.ft. Tar produced totalled 185,180 gallons, an increase of 3,815 over last year, while coke and breeze came to 5,619 tons, compared with 5,351. Total revenue for the Department was £29,453, an increase of £467. Gas sales were down £74 at £21,890, coke sales were up £563 at £5,181, and tar sales were down £197 at £1,576. Expenses were £14,903 for manufacturing costs, an increase of £1,727, while distribution costs increased by £523 to £4,494. Rates, taxes, loan, and administration charges reached £10,577, an increase of £117. The sum of £7,555 remains at the credit of the revenue account, being £523 less than the previous year.

Leamington.

At the 141st Ordinary General Meeting of the Leamington Priors Gas Company the Directors announced with regret the loss since the last half-yearly meeting of two members of the Board, Mr. H. G. Hawkes and Dr. Haynes, who was a Director for 21 years. Mr. R. S. Ramsden, who had been their General Manager and Engineer for the last 17 years, was elected a Director. There was a very slight falling off in the sales of gas, due to the exceptionally mild weather experienced last winter. This amounted to 0·06% of the total sales. Increased revenue was being received from coke and breeze following the erection of the new coke grading plant.

Metropolitan Gas Company of Melbourne.

At the Annual General Meeting of the Metropolitan Gas Company of Melbourne the Chairman, Sir Harold Luxton, said that in place of the usual half-yearly meeting they were now holding the first Annual Meeting in accordance with the resolutions passed by shareholders in July of last year. Since the last Meeting they had suffered a great loss by the death of their esteemed Chairman, Sir John Grice. To fill the vacancy caused by the death of Sir John Grice, the Board appointed Mr. Victor Y. Kimpton, a shareholder for many years. The quantity of coal carbonized was 240,395 tons—an increase of 14,825 tons compared with the previous year. 1,165,912 gallons of oil and 19,555 tons of coke were also used in the production of gas. From sales of gas a revenue of £1,115,854 was received, a decrease of £20,541 compared with the corresponding period of 1934. This decrease is the net effect of the block rate method of charging introduced in August last year, partly compensated for by the extra revenue from the increase in sales of gas. The quantity of gas sold—*i.e.*, 3,969,421,000 cu.ft., showed an increase of 172,015,000 cu.ft., or 4½% over the previous year. The net profit for the year was £221,998. From that amount £40,000 has been transferred to the reserved fund and £10,000 to the meter renewal fund account. The Directors declared an interim dividend in February last and now recommend that a final dividend at the rate of 6s. 6d. per share, equal to a return of 7·97% per annum on capital subscribed by shareholders, be authorized. This leaves an amount of £2,998 to be added to the carry forward, which thus totals £70,623. The receipts from residuals for the year totalled £182,955, an increase of £4,178 compared with last year. The sales of gas cooking stoves represented in number an increase of 26% over the preceding twelve months. This is the best result since 1927. During recent months, special efforts have been directed to developing the use of water heating appliances and gas fires. The sale of water heating units, including many complete services, represents an increase of 62% over the previous year. The number of gas fires and radiators sold during the year has more than doubled. Over 23 miles of mains have been laid, including 2⅔ miles of 18 in. main to supply the new Preston holder which is now on the point of completion. In addition, 4¾ miles of mains were renewed. The new services laid during the year were 4,265—a distance of 53 miles—which compares with 37½ miles during the previous year.

South Australian Gas Company.

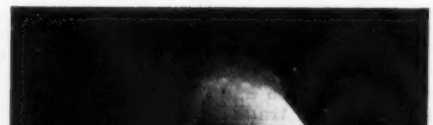
The Directors of the South Australian Gas Company, in presenting the statement of accounts for the year ended June 30, 1935, state that the profit (before providing for special purposes fund) after paying interest on bonds and adding balance (£6,427) carried forward from last year amounted to £114,133; add amount now available *re* Osborne coal handling £4,074, making a total of £118,207. This has been applied in the following manner: Dividend for half-year ended Dec. 31, 1934, at the rate of 5% per annum £35,000, dividend for half-year ended June 30, 1935, at the rate of 5% per annum £35,000, transferred to special purposes fund £37,067, £107,067, leaving a balance to be carried forward in profit and loss account of £11,139. With great regret the Directors have to record the death on Jan. 6, 1935, of Sir Herbert Phillipps, who was a valued member of the Board for 24 years. Mr. William Steele was appointed to the vacancy.

Warrington.

Mr. A. Cook, Engineer and Manager to the Warrington Corporation Gas Department, in his annual report states that the net profit for the year is £10,807, being an increase of £8,032 over last year. The increased profit is mainly accounted for as follows: Increased sale of gas (33,673,700 cu.ft.), £4,115; works and maintenance costs less by £800; rates and taxes are less by 1,100; apparatus, &c., net expenses less by £1,109; loan charges, bank interest and interest on investments less by £416. The industrial load is developing and it accounted for 28 million cu.ft. of the increased consumption. There was an increased make of more than 33 million cu.ft., which was the quantity accounted for in the increased sales. The quantity of gas sold was 694,951,200 cu.ft., as against 661,277,500 cu.ft. in 1933-34, an increase of 33,673,700 cu.ft. The consumers number 6,897 by ordinary meters and 18,885 by slot meters.

[*Further Undertakings' Results will be found on p.* 135.]

THE B.C.G.A. CONFERENCE.



Sir WILLIAM CRAWFORD.

Advertising and Public Utilities

BY

Sir WILLIAM CRAWFORD, K.B.E.

An Address given at the Opening Session of the Conference on the Monday Morning.

It is a great privilege for me to come here to-day because I was reared in the cradle of public service and public utilities. My father some 40 years ago was one of the most active forces in Glasgow municipal life. He was Chairman of the Public Health and Gas Committees and I remember talks at home of gas showrooms even in those days. It is wonderful to-day to look back on those times and now to have the privilege of making a few halting remarks to you this morning.

I come here to speak to you as a representative of the calling of advertising. I come also to learn, as it is my experience that there is no end to the study of the problems of advertising. It is the most complex—the most difficult problem in the world of commerce. But curiously it looks easy from the outside—but is it so?

At the commencement you are faced with a blank sheet of paper. On this sheet of paper by your clear sight—by your understanding of humanity and all the foibles of human nature—by your ability to write, your art in draughtsmanship—you are expected to place before a public, who don't want your message, an argument, a persuasion which, step by step, galvanizes this public into the action you most desire. I myself know of no more difficult task. It is fraught generally with failure.

But when I turn and examine the work which you have already accomplished, I am indeed astonished and delighted at the excellence of your work in all the realms of publicity and advertising. You have lit a powerful gas beacon which has illuminated the dark road along which we all travel as seekers after the knowledge that leads to success. You have done well. But do not rest content, as to-day the world is again changing.

What of the Future?

It is not sufficient for us all to come here to Edinburgh to listen to Papers about this great Gas Industry and then to return to our homes again and to tread the same old paths. This is a time for stock-taking—an occasion to learn of new ideas; an opportunity to examine the philosophies which are basic to the task of publicity.

We must have the courage after this Conference to tear up some of the plans of last year and start afresh on new lines.

I propose to analyze again the reasons why publicity and advertising are essential to your work, and I will do so in simple language. It is ever wise to iron out our minds on a subject which calls for the heavy expenditure of such vast sums of money.

I realize from the enthusiast's aspect that it is commonplace to talk of publicity and advertising as a real necessity in these days. Why—all the biggest and most successful firms and corporations of Great Britain and U.S.A. employ these forces for the development of their business.

I have heard it said many times that advertising pays; but approach the individual to advertise his own business or his own showrooms, and at once he mentions it is good and profitable for the other fellow, but not for *his* concern. His business is different, and does not need advertising.

I admit that there are many firms who cannot and need not employ advertising. Advertising is a necessity mainly with firms who sell direct by brand and packet to the public, or who serve people with any necessity for their daily and regular use. This is the broadest base for advertising, but there are many exceptions even to this rule.

We are assembled here to talk over quietly the problems and the philosophy and the necessity of advertising and publicity. It is one of the curious phenomena of these last fifty years, this growth of advertising.

Doubters.

There must be doubters in your assembly—there must be men and women who are not finally convinced of the necessity for expending great sums of money, in the Press, to win custom from a public who you think already know all about the service you have to offer.

Is it a new art? Is it a burden on trade and industry? Can we not save the money and use it for other and better purposes? Can we not devote more of the money to research? These are the questions that spring to people's minds—and often to engineers' minds and they come insistently and repeatedly.

I invite you, not directly to answer these questions, but rather to examine with me life itself, with the object of ascertaining whether, from the complexities of our present existence, there is any other power which can take the place of advertising and publicity. Is there a more economical alternative? That is a vital question.

Let us first turn to the past. One hundred years ago—when all society existed only within the village and the burgh, when men created and made their own products and sold them within their own confines—there was no great or national reason for widely expounding the merits of their goods or produce. There was little or no means of transport to other parts of the country.

It was the invention of the steam engine which altered the whole trend and movement of life. If we had remained without mechanical transport, we would live to-day quite happily within our own towns and counties. Mechanical transport has changed the trend—the direction of all civilization. Everything is altered.

The "Good Old Days."

Would you yourselves go back to the "good old days," when there were no bathrooms; where the outer world was beyond your reach; where the classes were divided into upper and lower only; when there was no education and little science; when doctors and dentists were like plough-

men; when life was simple but circumscribed? The good old days are gone; they cannot return—wish as we may.

Yes, in those days of a hundred years ago, when beacons and signals were the mode of telegraphing news, advertising as you know it to-day would have been an impossibility. But the scene is changed. The coming of the steam engine, the motor car and 'bus, and the aeroplane, have eliminated distance.

To-day we are but units of a multitude, and we only recover our own personal and private individuality by going to the modern cinema and looking at ourselves living again in a land of our inner dreams and hopes. A land of adventure and fun and wonder—where the actor is an ordinary man like ourselves, but placed on a pedestal with a bright light on him. When we come out of that cinema we are again one of the units of the crowd.

The crowd! That is it! The multitude of people—the individual life has gone. Our thoughts and habits are created by the new conditions and the example of those around us. Now a new situation confronts us—a new ignorance faces each of us. Life is so filled with a myriad of attractions, that we have no time or occasion to study each one of them, and we have the opportunity only to be masters of few of them.

To trace the origin of this new, fuller, and involved life, we must revert again to Stephenson's steam engine. Speed in transport has led through machinery to speed in manufacturing, which found its fullest expression in mass production. Mass production should express itself in rendering to the people the fullest service and the best of goods. But again, everyone now is attempting to force on the crowd the goods and services which they create for their own profit. So the crowd become, in time, confused, and the people withdraw themselves within the confines of their own minds and lives.

The Life of the Individual.

It is at this point in the individual and the congregated lives of the people that some force is essential to grasp and hold their minds.

Just examine the life of the individual to-day: National politics, local affairs, tariffs, income-tax, the Church, the home, the family, education, sport with all its subsidiaries, test matches, the cinema, the theatre, dancing, reading, health, racing, aeroplanes, motor cars, swimming pools, the public-house, the cocktail bar, gas, electricity, restaurants, tea shops, love affairs, business, football pools, wireless, television, cooking, sewing, Abyssinia, Italy, the League of Nations, the Press, posters.

I could go on and on enumerating distractions and interests which are at everyone's hand, and each must be considered and have its place by different members of the family. There is a complex life. And this is the life we all lead.

Only a few of these distracting interests existed even in the year 1900—that is only 35 years ago.

Manufacturers are inventing goods for our use. Daily one model is surpassed by another and better model. The competition grows and becomes daily fiercer and fiercer. How can a manufacturer or a local gas undertaking penetrate through this complex mass of attractions to gain the support of the public for the goods or services he has to offer? The public have the say. We are all concentrating our hopes on them. Can we win the public?

Who shall gain their confidence, and through confidence obtain their trade, and through trade, control the habits which lead to a stabilized market? Every effort is being made every hour to wean away the alliance of the public from their existing habits.

It is at this point that advertising enters the scene, and, if wisely employed, grips the situation and takes authority over the thoughts of the people.

The Thoughts of the People.

I emphasize the word THOUGHTS. If the people do not think, they will not eventually act.

It transpires, then, that advertising has the double function of affecting the thoughts of the individual, and yet taking within its grasp the whole populace. It may seem a paradox that the individual is the unit of the mass, and yet it is not the mass. The mass is affected by mass psychology—mass movement. The individual may be moved by reason or by emotion, whereas the mass, as a rule, is moved by emotion only.

It is in conceiving of how to hold the public that the publicity expert must be given his free hand, as only by experience and testing can the judgment of the actions and reactions of publicity on the public be estimated.

Thus, I warn you all not to be too opinionated when it comes to your turn to offer judgment on the application of advertising. Just as you expect the publicity man to be cautious in relation to your task, so should you be cautious when commenting on his work.

I realize that everyone thinks he knows more about advertising than his neighbour. My own experience is that amateurs, while good at golf and tennis, are bad and most unsound when commenting on or criticizing advertising and publicity. And yet there is one thought I would place before you—which is, that advertising and publicity is not an end in itself, but a means to an end. It is the technique of expression—pictorial, written, and verbal—of telling the public the merits of a service which the public should employ. But it is not the service itself. It is a servant of the service—a servant of science. It is not a substitute for good craftsmanship.

You meet here in serious conclave to discuss great questions of organization and scientific development, and the unifying of your plans from the past for the future. You are here to learn from each other, and to project new ideas for the improvement of your services to the public.

What the Public Think About Gas.

And what is the public view of your problem? What do the public think about gas? They are not concerned with you, or your talks or ideas. They think of gas as coming out of a jet. They expect it to give good light or good heat. They hope that it is harmless. They hate the smell of it and THEY DON'T LIKE PAYING THEIR BILLS! That's all the public think about gas. It's as simple as that to them—but not to you.

Each of us has a misconception of the views of the other man about ourselves. Each of us paints a picture in our own minds of what the other man ought to think of us. You, who have devoted your lives, your imagination, your many hours of labour, to the planning of an efficient service and to installing well laid-out showrooms where the latest appliances are on view, you think, rightly too, that the public appreciate it all.

Go back and examine the list of interests which encompass the lives of the people, and you will realize you are only an incident in the daily task. But this must not deter you; the realization of this simple truth is the determining evidence that you must each and all employ more advertising to ensure that you capture your share of the attention of a busy people. And, moreover, it demonstrates that your scientists and inventors must be always on the alert—devoting time, study, and imagination to creating improved new services and new appliances.

The public are far from content with the service you are giving. They want cheaper and better light. They want a more simplified form of cooking range. They need and deserve a new and improved form of indoor house lighting.

Embrace the architects and the artists, and through the combination of artist and scientist invent a more attractive form of internal illumination.

I will not touch on street lighting as that is a subject which should never rest for a moment. The street lighting of this country is disgraceful.

I make these remarks as an advertising man, as I am in a position to promise that your advertising men can sell in increasing quantities improved and better services if your inventors can create them. Know that the public are expecting many new services from you. Do not allow the scientist to work on his own. Tell him what you need as salesmen.

Fundamentals.

These are not trivialities, but fundamentals. I put them to-day before you because I realize that you may be resting in contentment—not realizing that one day soon, the silent opponent—electricity—is just coming to strong and virile maturity. He is a giant—but he is only stretching his infant arms at present. The day is coming when a new and vital man will lead electricity with conviction and earnestness and capture public attention and win public favour.

Say to yourselves that there is room for both, but only if both are always on their toes.

Do not rest upon that saying that there is room for both. Take the case of the Consolidated Gas Company of New York. This represents both gas and electricity and yet spends more money on gas. Each has its own function, but there will be a terrific fight in the few years ahead.

Say, rather, we must invent, improve, create new and better services so that we may keep our light burning in the face of the sun of electricity. Do not rest on your arms because you have a "winner" in your new refrigerator plant. That, too, will be surpassed in a year or so.

I express these few thoughts, and attempt to inject a new restlessness into your being, as I am anxious that our country should lead in all forms of public utility services.

If I were speaking to-day to an electrical association I would talk in equally frank words.

I realize there are problems which are peculiar to borough and city corporations, and which on the face of them, are apparently difficult to solve. One corporation with two departments—the one selling gas and the other selling electricity. So neither is permitted to push its services in case it hits the other. And neither is allowed to have freedom to compete one with the other because between them they have a monopoly.

If any borough does possess a monopoly, then its duty is clearer than that of a public company which works for profit.

A monopoly to-day should be spelt RESPONSIBILITY—and responsibility means that a keener attitude to the education of the people is demanded.

An Obligation to the Public.

Advertising is not a favour or merely a casual expenditure of money. It is an obligation to the public to keep them informed of all the advancements in the service, and to induce them to increase their demand in order to ensure that through increased quality and quantity the price is reduced.

Advertising is not an end in itself, but a means to an end. It is the technique of speaking to the mass, and a mode of educating the public. It is information on vital facts. I claim that all corporations must employ this technique if they would grow in their power and serve their own people.

I invite the representatives of boroughs to think well and deeply over this matter, and to realize that the public must be made most conscious of the services at their call. Remember, if over-selling is a fault, under-selling is a misdemeanour. Not to push and advertise may then be a misdemeanour to the public.

Going back 120 years, Napoleon wrote: " What does the art of governing consist of—whether for sovereigns or minister? It consists of advertising to ensure everything is well done." Think over these words of Napoleon.

The Post Office enjoys a monopoly both for postal service and telephones. Yet, holding these monopolies, the Post Office entered five years ago on a strong campaign of selling and of advertising, and the results have been beyond the dreams of the most optimistic.

Sir Donald Banks, the Controller-General of the Post Office, said to me the other day that advertising has completely changed the attitude of the personnel of the Post Office. Previously they were a down-and-out Department, but now they are the most active and live Department of the State.

The tariffs of all Post Office Departments have been greatly reduced, and this has been accomplished by the increasing volume of trade won by a new energy and a new conception of the needs of the public.

The underlying principle of all advertising—which is a form of education—is persistent reiteration. The accumulated force of reiteration is remarkable and enduring. Reiteration is imperative if you would have the public appreciation of your story. You cannot reiterate unless you advertise.

Therefore if reiteration is a principle, then advertising is the vehicle by which you reiterate. In these days of conflicting services I make the claim that any organization which does not tell its story must be left behind.

Film Publicity.

There are many ways of telling the story. There are many media and I am glad to observe that you are grasping and intend employing the newest of all systems—namely, the talking films.

This is the kind of new enterprise which I welcome. Whether the film is successful or not the public love the cinema—there is no form of entertainment which all ages and classes attend with such pleasure and regularity as the cinema. If the film is altering the tastes and dress of the people, then indeed it is a subtle and good form of publicity for you.

The General Post Office took a shop in the Strand last year to demonstrate their service. 70,000 people watched the Post Office films in a few weeks. That was in one shop in one street—one street!

This film service in which you are invited to participate includes humour, entertainment, propaganda, and the uses in the house of gas and how it is made. Here is a form of bringing to your own streets or town the local application of advertising.

You will entertain and persuade your own public in your own locality by joining and using this service. You will be in advance of other similar services, as these films are just out of the oven—hot, well-baked and fresh, up-to-date, the last word. If you use these films generously and frequently you will capture many adherents to gas. You will get a direct human touch with the public.

I have one great perplexity about all national associations and their membership. I am convinced my perplexity does not in any way involve the members of the B.C.G.A. You are the greatest and most enthusiastic public utility body to-day in Great Britain. You are the most go-ahead and useful public association in these Islands.

To a Wider Audience.

My next remarks are made then to a wider audience—and it is necessary to express these thoughts at this time when the spirit of co-operation is active in the land. I would tell these thoughts too to the League of Nations to-day.

If the corporate system is to be a power for good, then the action of each unit is as vital as the action of the assembled body meeting to resolve and decide upon a policy. One brick that falls away from a building spoils its appearance and weakens the strength of the whole.

So it is with the B.C.G.A. If the majority support the idea of publicity in every form, then the individual company or corporation must not rest content with the payment of its subscriptions. Subscriptions are not sufficient. The spirit must be caught and felt. Each and every unit must play an important part in all activities—including all forms of publicity.

The greater the local effort, the more powerful and effective becomes the national campaign. Local advertising focusses the attention of your own public, and the larger issue of national publicity is a convincing form of advocacy for all the people.

I make an appeal to you and to all your members to-day to join with greater intensity in the work of local publicity. Co-operation does not destroy individualism. It is your opportunity to post and distribute all printed matter and to engage halls for film showing.

I say all this because I realize that the slowly awakening giant of electricity will soon stride forth from its adolescence ready to fight for each unit of trade. You have already had a start in the race. Don't rest content. Don't let the tortoise of electricity overtake you.

I reiterate the point because the people in their private talks say that you are old-fashioned. Don't let that rumour grow. And to-day it is only a rumour.

The Post Office was thought old-fashioned until Sir Kingsley Wood injected the old serums of energy, courage, publicity, and advertising into its vein. To-day the Post Office is the department of State most talked of.

I do not know who was the man who first conceived the thought that you should all unite in one National Association with the object of inviting the public into your confidence. It was a wise move to tell the people of your purposes, your ideals, your service. Whoever the leader was, he deserves a life's tribute from you all. Follow the counsel he gave you. By following his direction, you have become the leaders. Now others follow you.

You will witness increasing and national co-operative advertising campaigns. These will compete with you for public attention, although their objects may be to sell more electricity, more milk, more bacon, more potatoes, and more beer. There are another dozen bodies all thinking of uniting with the object of launching national publicity campaigns.

Eternal Vigilance.

You, who are the leaders, must pay the price of leadership, which price is that of eternal vigilance, undaunted courage, and patient persistence.

It was you who made the discovery that there is no force so strong, so penetrating, and so insistent as our Daily, Sunday, and Weekly Press. It is to-day still the most economical method of circulating news, views, and plans. The message filters through all grades of Society until it forms itself into a national consciousness which in turn becomes a national habit. This is the power exercised by our Press and which you wisely discovered in your early efforts.

I would counsel you to intensify still further your programme in these media. While all life is changing there has not yet been discovered any new method of publicity so active or so vital as the Press of this country.

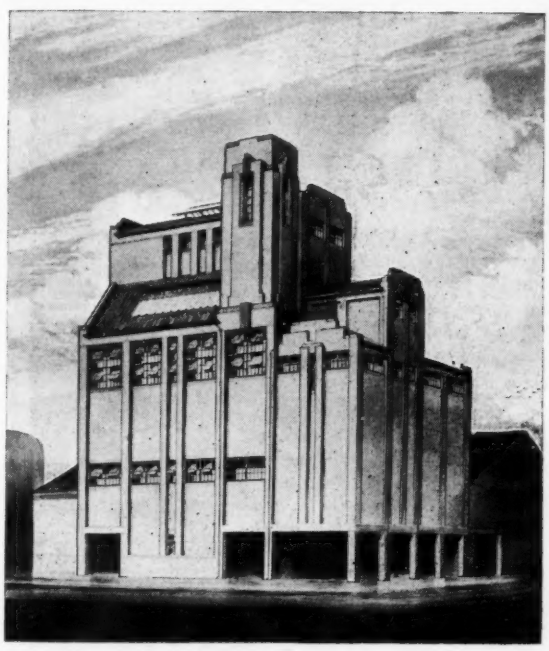
You are the heirs of the efforts of our fathers; yet you are awake to the modern feeling. Ahead of you is an array of mighty powers both in the industrial and social spheres. New aspirations come to birth every day. The old prejudices crumble and crack, an indescribable quiver is passing through everything. A new age is dawning and new desires will rise up.

You are fortunate in possessing equipment which is more efficient than ever before, but you must spur on to the inventions which will give a new and freer life for the people of to-morrow.

WOODALL-DUCKHAM

CONTINUOUS & INTERMITTENT

VERTICALS



Design Drawing for the new Installation at Loughborough

INSTALLATIONS IN COURSE OF CONSTRUCTION

	Capacity in Tons per Day
ALGIERS (North Africa)	213
BARI (Italy)	24
BIRMINGHAM (9th Installation; Windsor Street)	591
BRECON	10
CHESTER	132
ELGIN (2nd Installation)	12
EPPING	25
ILKESTON	65
LIVERPOOL (3rd Installation)	153
LOUGHBOROUGH	42
ROME (Italy)	304
STOURBRIDGE (3rd Installation)	63
WANDSWORTH (2nd Installation)	200

Modernisation and Reconstruction Work is in progress at:—

BIRMINGHAM, HULL, SMETHWICK, NOTTINGHAM, MARGATE, KENDAL, ABERDEEN, GREENOCK, IPSWICH, GLOSSOP AND KENSAL GREEN

W-D

THE WOODALL-DUCKHAM VERTICAL RETORT AND OVEN CONSTRUCTION CO. (1920) LTD., EBURY & ALLINGTON HOUSES, 136-150 VICTORIA STREET, LONDON, S.W.1

Members of the Society of British Gas Industries

Telegrams: "Retortical, Sowest, London" Telephone: Victoria 8631 (6 lines)

THE B.C.G.A. CONFERENCE.

Market Survey

BY

HUGH WEEKS, M.A.

(Research Manager, Cadbury Bros., Ltd.)

A Paper presented at the Second Business Session on the Monday Afternoon

Mr. HUGH WEEKS.

My experience of market research and of marketing has been largely gained in the Confectionery trade, and I realize that the methods which we use and the problems which confront us must be widely different from those of the Gas Industry.

Let me begin by examining some of the essential differences in our problem. We do no direct selling to the final consumer. Our sales are partly to wholesalers and partly to retailers, and we have the double problem of securing their goodwill and also of meeting public demand. The annual consumption of confectionery amounts to about 25s. per family per annum, and this for the most part is made up of small purchases averaging less than 6d. a time by any of the members of the family, spread over the whole year. Purchase is largely on impulse. Some buying may be regular habit, but we think the larger part is a consequence of the constant reminder of advertising in the Press and of display in the thousands of confectionery shops throughout the country. We sell nationally at national prices, and though we decentralize the control of many of our selling activities, primarily we have one sales policy for the whole country.

The marketing of gas is a widely different problem. Each of the hundreds of undertakings in the B.C.G.A. has a definite local area and different local problems. Prices vary considerably. Clearly a very important difference is that expensive equipment is necessary before gas can be used, and the problem of the Industry would at first sight seem to be more to sell equipment which will encourage the use of gas than specifically to sell the use of gas.

We are faced with competition from some 400 other firms within the industry, though it often seems that competition from outside the industry is much stronger. We compete for the extra cash which is left when people have met the ordinary budgeted expenses of domestic life, of which the gas bill or the new gas cooker is clearly an important item. Your competition is from alternative supplies of heat, light, or power—electricity, coal, or oil—in the first place, though in a further analysis it is clear, too, that you compete with the cinema, the draper, or semi-luxury foods just as we do. It is clearly reasonable that some people should prefer a comfortable, warm, and well-lighted home to the amusements of the cinema or the nice feeling of being well-dressed. This is, I think, an important point to realize, for it is our experience that it is often a mistake to concentrate too much on attacking one's direct competitors. The Gas Industry should be more concerned with promoting a higher standard of comfort among the public than in proving that a gas fire is better than an electric fire.

There are some points of similarity. Both of us are catering for a demand which is nearly universal. Our aims, too, are the same—to sell either more gas or more chocolate, and there is similarity in the methods which we must both adopt to attain that aim. We can both derive great help from Press advertising, and at the morning session Sir William Crawford will, I am sure, put up a very strong case for Press advertising for public utilities. We rely, too, upon the personal selling efforts of salesmen, and in your case inspectors, maintenance men, and all those who come into touch with the consumers. Finally, we both depend upon the personal recommendation and the personal satisfaction of the public.

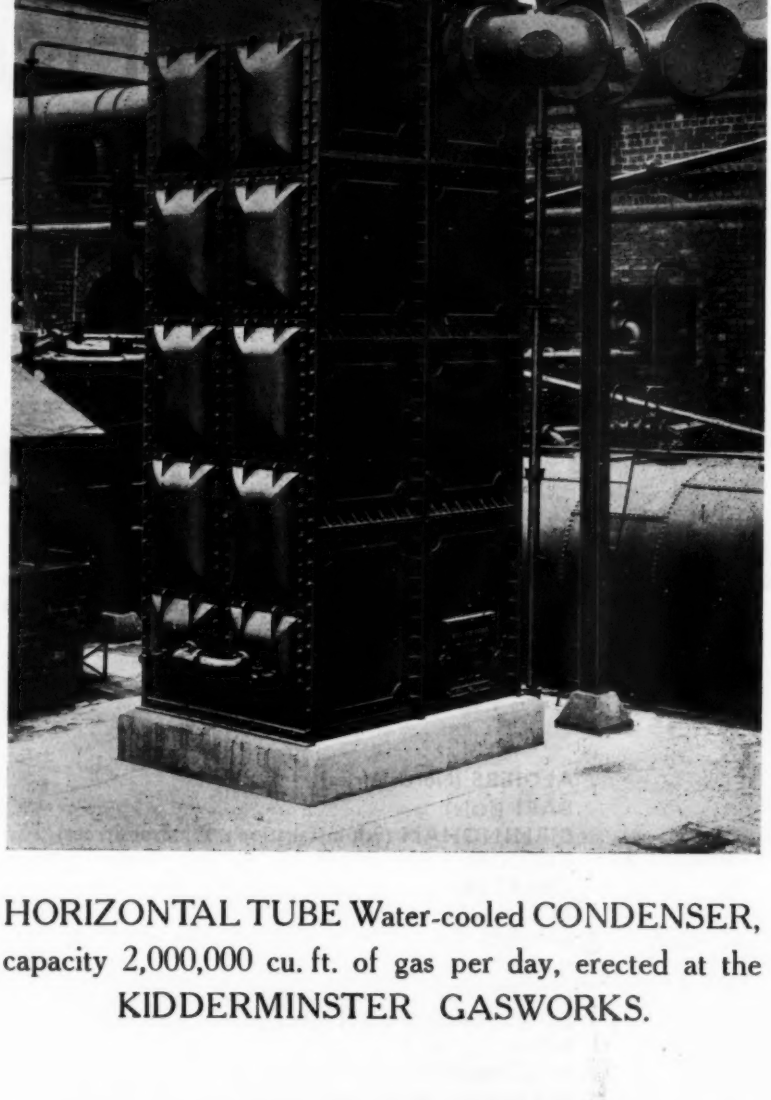
There would be little point in my attempting a complete survey of all our marketing procedure in the hope that some of it might be of interest to you. I shall try to select those developments which will be most provocative of thought, and where possible, I shall suggest the direct application to your Industry of the methods we use.

Marketing and Sales Analysis.

Marketing can, I think, be divided into two main functions. The first of these is to find the point of least resistance, to discover weaknesses in demand, neglected opportunities for selling, so that sales pressure can be applied where it will be most effective. If the first part of marketing is the discovery of the best points of attack, then the second part is the devising of methods of attack, of which advertising is perhaps the most important. This Paper will mainly deal with surveying the market to discover the most profitable points of attack.

Our own approach to the problem begins with internal analysis. We analyse our records of sales in considerable detail so that from them we can know which lines are increasing or decreasing in sale, in what parts of the country, and how such increases or decreases are related to general conditions. We know how far our sales are rising or falling with particular types of shop, with grocers, with multiple confectioners, with department stores, or with co-operative societies. We can estimate the effect of replacing an average salesman by a good one. We can estimate, too, the effect of any particular local selling effort—heavier advertising, more window displays, cinema lectures, and so forth. Such information is vital to us in forming our selling plans, but clearly it is only the first part of the picture. It tells us what is happening; it can rarely do more than give an indication of why it is happening.

On this question of sales analysis it seems to me that gas undertakings have a considerable advantage over us. We are only selling to the retailer; you are selling to the ultimate consumer. You can analyse your sales to consumers as we analyse our sales to retailers, so that each company can tell exactly in which districts the sales of gas are rising or falling; you can tell at what time of the year the rise or fall is taking place. It is clearly possible to carry an analysis much further, and I imagine that many concerns do this. You can make a census of all the apparatus which is known to be installed, and by relating the amount of gas apparatus to the size of the house you can measure which districts in your area, and even which individual houses, are deficient in the equipment to use gas. You can fix average quotas and direct your selling efforts to those districts, or even to those consumers who are below average. You can tell how new estates compare with other parts of your district. Such information is clearly of very great importance, and to those undertakings who do not make the use of their records which I have suggested, I would like to point out that such an analysis need not be expensive, that it can be approached little by little, and



HORIZONTAL TUBE Water-cooled CONDENSER, capacity 2,000,000 cu. ft. of gas per day, erected at the KIDDERMINSTER GASWORKS.

ROBERT DEMPSTER & SONS, LTD.

Wire: "DEMPSTER" ELLAND **ELLAND** 'Phone: ELLAND 261

LONDON OFFICE: 16, Queen Anne's Gate, Westminster, S.W.1

Wire: "ELLANDORS, PARL, LONDON." Phone: Whitehall 2661.

complaints dealt with? Are there any reasons why they prefer dealing with the electric rather than with the gas concern? Finally, it would be possible to discover how far gas consumers are aware of the specific gas advertising of recent years, and how far they appear to be influenced by this advertising. The type of result which would be disclosed is illustrated by a wide research on refrigerators in this country in which it was found that one of the major reasons for the first purchase of a refrigerator was the desire to safeguard the food of young babies, and in particular of first babies. Everyone will at once agree that this is a useful selling point, but it needed research to show how powerful and important a factor it actually is.

At this point it is necessary, I think, to distinguish between the sort of research which it would be reasonable for the B.C.G.A. to carry out on behalf of the Industry as a whole, and that which individual companies might undertake. The statistical enquiry I have indicated is clearly a matter for individual companies who want to direct their own salesmen to the best advantage. Individual companies, too, might well take the opportunity of checking up how well they are maintaining their good relations with consumers. But the wider aspect of research—the general consumer attitude towards gas apparatus and the use of gas—is clearly a question which involves the general propaganda policy of the B.C.G.A. as well as the individual marketing policies of the various companies who are members. In your case clearly any national selling effort can be generally relied upon to help the local undertaking. Our position as national distributors is clearly more comparable with that of the B.C.G.A. itself.

It will be obvious that consumer research can give help in formulating the national advertising of the B.C.G.A. It should show the prejudices most effective in restricting a wider use of gas; these by careful propaganda can in time be overcome. It can show those advantages in favour of gas which have already appealed most to consistent users, and these arguments can be used to convert the more uncertain consumers who are the most susceptible to advertising. Research can show which of the claims for certain apparatus—cookers, water-heaters, fires, and so on—have appealed most to those who use them.

In our own case research has shown that by reason of the share of the market we hold, and the relative brand loyalty of consumers, our best chance of increasing sales is to increase the total market for chocolate rather than to attempt solely to transfer consumers from our competitors' brands. Research may well indicate a similar new line of approach for the Gas Industry in your future marketing policies. Research helps to formulate a definite policy which can be followed in its essentials by all forms of sales promotion; otherwise there is a tendency for opportunist and unconnected efforts which have little cumulative effect upon public imagination.

Other Methods of Research.

Direct consumer enquiry is by no means the only method of research we adopt. Every new line which we produce, every new unit which goes into a box of chocolates, has been previously tested by a tasting panel. The important thing about this panel is that it is supplementary to the expert panel in the factory which considers the units when they are first produced. It consists of a number of persons in different parts of the country, of different classes, who receive the units wrapped in numbered tissue paper and with no marks of identification whatsoever. Sometimes they may be testing Cadbury units against Terry or Rowntree units; sometimes they may be testing a series of projected new Cadbury units. Their job is simply to say whether they like a unit or not. The importance of this panel is that it emphasizes the difference between technical standards of perfection and consumer's standards. A unit which technically is regarded as a very good job may be disliked by a large part of our potential consumers, while some of the most popular of our units have nothing about them which appeals to the technical standards of the expert. This, I think, is a contrast which must be as important in the Gas Industry as it is in ours. The real test of apparatus is whether it satisfies the housewife or the cook in cost and performance, and all apparatus surely ought to be tested by them in ordinary use. I have no doubt this is frequently done; I introduce the point as an important marketing principle which governs our research.

Other methods of enquiry—observations in shops, research into retail selling methods—are of less interest to you, but there is one other important part of our research activities, and that is the constant search for new channels of business. We are continually on the look-out for any new type of distributor which may demand our special attention. Some obvious recent developments are the growth of ice-cream parlours, of roadhouses and swimming pools, and the projected bars of the Milk Marketing Board. We are concerned, too, in keeping in touch with new consumers who are in key positions, such as doctors and nurses, or consumers who may be expected to be especially vulnerable. Research has shown that in the Cocoa market, for example, there is extremely little changing from one brand to another, which means that the children's market, important in any case, has received even more of our selling effort than it otherwise would.

The principle is one of constant development. It seems to me there must be certain points at which the gas consumer is vulnerable to the sale of gas apparatus. Newly married people already receive samples from many retailers and manufacturers, but surely as soon as a girl is engaged she ought to be pursued by a gas salesman. The birth of a first child produces—if it has been adequately advertised—a free supply of infant foods. It should also be possible for a gas salesman to call after a decent interval to point out the undoubted advantages of gas heating for a nursery. In many towns at the present time there is a serious shortage of domestic servants, and many registries refuse to accept further applications from mistresses. Here again is a chance for the gas salesman, who can point out to the maidless mistress that labour-saving through gas appliances can almost do away with the necessity for domestic help. I have no doubt that new housing estates are well looked after, but the gas companies have the advantage, too, of knowing of every house removal. This should be followed up so that the incoming tenant may not lack the opportunity to buy more apparatus.

Press advertising can go out widely and can be effective. Direct salesmanship must be applied to those persons, to those districts, to that type of house, where response is most likely.

Two Marketing Principles.

I said earlier that this Paper would be mostly devoted to the way in which we discovered where to direct our selling effort. It may not be out of place to conclude with two of the ways in which sales can be increased. It is an article of belief with us that everyone who has contact with the trade or with the public must think himself a salesman and must be so trained. A letter written by a clerk in an office can destroy the goodwill painfully built up by the monthly attentions of a salesman. The window-dresser can help to sell goods to the trader as well as display them in the window. The L.M.S. have realized this, and every railway porter is encouraged to think of himself as a salesman for the services which the L.M.S. provide. Gas undertakings have an advantage over most other firms in that every quarter, through the man who reads or empties the meter, they have a direct contact with every one of their customers. It is obvious that some companies take advantage of this contact. It is a most valuable asset, and it may well be worth while for the men to read less meters and do more selling. It seems to me especially important, because at the time when the meter is read goodwill can be lost, for the gas consumption is always apparently higher than was expected. Undirected salesmanship can be more dangerous than helpful, and though your salesmen are excellently trained, all the outside staff should realize their opportunities and how to make the most of them. They should be encouraged to do this through suitable incentives: competitions, commission on sales, sales quotas, and so forth.

Your problem is to sell more gas, ours to sell more chocolate. During the last few years we have followed a determined policy of price reduction. At every opportunity prices are reduced, even though the reduction is a small one. It is a spearpoint of our selling, the theme of much of our advertising. The results have been exceedingly interesting. In a period during which the turnover of practically every industry was declining the value turnover of the whole chocolate industry has increased. The first reductions were unpopular with the trade, who believed that their turnover would suffer. We hope now that many of them realize how much better off they are than other trades where prices have fallen less. The public, too, have responded in a surprising way to the successive price drops. The latest reductions, though by no means the largest, have been the most effective. The chocolate-buying public has been trained to become price conscious. The attitude towards chocolate has changed during the last five years. At one time it was thought of as a semi-luxury; it is now a convenient and a cheap foodstuff to be eaten at all times and in all places.

I realize that gas undertakings are hedged with restrictions and regulations controlling the price they charge and the profit they may make, but most of these assume that no company wants to reduce prices and forces it to do so when profits rise to a certain figure. Whatever the basic policy about gas prices, I do suggest that whenever prices are reduced the fact should be strongly advertised to your consumers. I will go further, and suggest that although

that it may well serve as a convenient way of averaging out the flow of clerical work which otherwise may be rather irregular.

I have said that at first sight it would appear that the main problem of gas undertakings in seeking to expand is to sell more apparatus, but this assumes that having installed the gas appliance the sale of gas follows. How far is this proved? You may have found out how many pieces of apparatus are installed, but you do not know how many are rarely or never used, or used for less time than the standard of living for the particular household would demand. How many cookers are used to part capacity in summer because people have been allowed to think it better to buy tinned food in hot weather rather than to cook on a cooker and cool in a gas refrigerator? How many gas water heaters only run half the number of baths which could be demonstrated to be necessary for the full cleanliness of the household? You may find out that people are fixing less appliances, or are using electric appliances instead of gas, but you do not know just why this change is taking place.

We, too, are in a similar position. We know in what districts people are buying more or less, and of what lines; but statistical analysis alone will not tell us why. It will not tell us whether a fall in sales is due to the fact that less chocolate as a whole is being eaten or whether it is because people are transferring their purchases to a competitor. Statistical analysis alone will not tell us when and where our consumers eat; it will not tell us if there are any times or places of consumption which have been undeveloped by us in our advertising and other sales promotion. The answer to this further probing into consumer habits and consumer opinions, which is vital before a full picture can be drawn, is Consumer Research.

Consumer Research.

Consumer Research acquires information by sending trained investigators to a representative sample of households, and in ordinary unforced conversation getting from each of the housewives the answers to an exact list of questions with which the investigator has been primed. I think your first reaction to consumer research may be that while you agree that further information is necessary, you feel it can be very adequately obtained through the reports of your own salesmen and inspectors, who are periodically in touch with every consumer in your district; but unfortunately it has been proved that in work of this kind the reports of salesmen are nearly always unreliable. It is rarely the fault of the salesman. They are engaged primarily on other work; their other work will suffer if they devote too much time to research. When customers talk they are conscious of the fact that they are talking to representatives of a gas undertaking. They are less likely for this reason to give an unprejudiced account of what they think. In some parts of the country customers are too polite; in others they enjoy the chance of grousing to the salesman. We ourselves are so afraid of this inevitable bias that when we are trying to get information from the retail trade we get it by sending out special investigators rather than getting reports from our own salesmen. There have been times when we have been able to check the accuracy of both methods, and we have found that salesmen have tended greatly to over-estimate the success of some competitors, and to under-estimate the success of others. Independent investigators have been far nearer the truth. On one occasion our salesmen's reports suggested that the trade was widely upset about a particular change in prices. An independent research suggested that although retailers habitually complained in talking to our salesmen, actually most of them took the question less seriously than our reports would suggest, and that other sources of complaint were more serious.

One advantage of using market research investigators is that they are not even connected with the Cadbury organization. Our advertising agents are the London Press Exchange (who are also the agents for the B.C.G.A.), and our consumer research is done through their very efficient Research Department, with whom we discuss every stage of the work. The investigators are doing the work for the London Press Exchange and not for Cadburys, and this greatly affects the impartiality with which they can collect results.

Examples of Research.

You may have noticed in *The Times* recently a column on the opening of the Confectionery Exhibition at Olympia, which stated that 90% of all classes of the community eat chocolate, the figure for Wales being 97%. *The Times* went on to quote that "40% of the young unmarried men buy chocolate more than once a week, but after marriage only 24% continue the habit; 80% of the young men buy chocolate once a month or more, but only 63% of the married men do so. Young employed women appear to be the largest consumers of chocolate; 85% buy once a month or more and 42% more than once a week. . . . Outdoor activities would seem to have promoted the sweetmeat habit; a bar of chocolate has become part of the equipment of the hiker, the cyclist, the motorist, the athlete. Credit must be paid to the manufacturers for their enterprise in the distribution of their products and their readiness to provide for the public taste."

These facts had been supplied by research, and were part of the results of an investigation among 10,000 people which was carried out for us earlier in the year. Another research was completed recently into the market for food drinks, of which we make one of the leading brands. The first question was whether a food drink was consumed in the household, and if so, which was the brand last bought and whether it had been bought in the past week, which immediately gave us an indication of the relative popularity of the different brands and the frequency of purchase. The housewife was then asked if any member of the family had taken a food drink on the previous day, and if so who it was and at what time. If she herself had taken the food drink, then we asked what had been the reason why at that particular time she had taken it—how far was it habit, how far was it the desire to sleep better, was it doctor's recommendation? and so forth. These were some of the reasons which we knew existed, and we wanted to place them in their relative order of importance. A record was kept, too, of the weather on the previous day, so that we could see how far consumption varied when the weather was cold or warm, wet or dry. You will notice that every question was made as specific as possible, so that there should be no distortion through faulty memory. We were able to compare the type of persons who made up the market for our own food drink and the type of persons who made up the market for the products of our leading competitors, so that we discovered whether we were especially weak in any of the districts in which the enquiry was conducted, whether we were relatively weak in any social classes, or in any particular age group. This research will be the basis for the whole of our selling policy for next year. It is by no means the first research we have undertaken into the food drink market, and one of the first things which it showed was the effectiveness of a policy of concentrating selling effort on a particular social class which had been suggested by a previous research. We know now the precise relative importance of food drink consumption in the morning and at bedtime; we know what proportion of our market is made up of housewives and what proportion is made up of young people. Any future marketing plans which are prepared can be discussed, criticized, and improved with a knowledge of facts rather than based upon surmise.

Everyone who has to create a marketing scheme for any product, whether it be gas or chocolates, has in fact to answer many of these questions. Too often, I think, one is influenced by the expressed opinion of friends who are a small and by no means representative sample of the public. Worse still, one is likely to be influenced by one's personal reactions to any particular problem. Consumer research means a deliberate effort to get the real opinion of a carefully chosen sample of consumers, chosen from all social classes, from all districts of the country, so that within certain limits of error they are representative of the country as a whole. The limits of error, too, are such that an investigation among 3,000 or 4,000 people should give with considerable accuracy the relative importance of the various reasons for purchase, or where there is a competitive situation, the various brands which were bought.

Research for the Gas Industry.

If on behalf of the Gas Industry as a whole there were a consumer research, what is the type of question to which one would hope to receive answers? Some have been already indicated, such as the extent to which apparatus is used—especially old apparatus. You ought to be able to find out what is the consuming public's opinion of the efficiency of apparatus; do people consider that gas is an expensive way of warming a house or cooking? Do they really compare the cost of coal heating, with its attendant dirt and charm, and the cost of heating a room by gas? How far are they influenced by the appearance of a gas fire and the design of apparatus generally? What is the situation relative to electricity? Are there those with experience of both who still prefer gas? Does everyone with gas lighting hope to transfer some day to electricity? How many people with both supplies think of buying a gas refrigerator? This question of the wish to change is obviously one of great importance, since it suggests what trend future sales may be expected to follow. It should be possible, too, to check up on the local services which consumers receive. Do they get prompt attention? How are their

clever marketing and sales pressure may increase the consumption of gas and the sale of apparatus, yet the main reason why the use of gas will survive is that it is thought to be not only the most convenient but the cheapest way of serving the house.

I have described some of the methods of research which we use and suggested some applications to your problems. One of the hidden values of research is that its use encourages a right attitude of mind. I am not sure that this habit of approaching a marketing problem from a research attitude, and trying to discover what is known and what could be known about the facts of the case before making a decision, is not one of the most valuable contributions which research can give to any business or industry.

Discussion.

The PRESIDENT: We have had a very interesting and perhaps highly provocative opening from our friend, Mr. Weeks. I think it is all to the good that we in the Gas Industry should from time to time invite outsiders to come and speak to us about our own problems because we must, in the very nature of things, by losing contact with our friends in outside industries who have just as acute problems as we have, lose at the same time the intimate touch with the man in the street and the woman in the home that Mr. Weeks has referred to more or less generally.

Mr. H. WHITEHEAD: Market research is a rather dangerous thing. It may be a boomerang particularly when, as I have no doubt has been Mr. Weeks' experience as much as mine, an organization or an industry has set out to prove a preconceived idea. As a matter of fact, market research will prove anything you wish to prove. There are always plenty of opinions and facts, if you please, which will support any known theory, even a foolish one. Therefore, before any organization or industry tackles market research they need to be honest in their own hearts that they are willing to face facts; but as soon as market research is commenced with the idea of proving a preconceived fact, the money and the time and the effort is more than wasted. Another danger of market research is in sending out inadequately equipped investigators. Many people will give information—honestly give information—which, in an analysis must be discarded. The research man or investigator, the man or woman who goes out, must not only be able to report facts as given to them, but must avoid leading questions such as "Who were you with last Thursday night?" and such like! More particularly still they must be able to evaluate the source from which the information comes.

With your permission I will give you a rather striking illustration. The Post Office has been mentioned two or three times, and perhaps I may take the opportunity of giving a little fact with regard to the new telephone rates. An investigation was made—we will ignore the number of homes called upon and from which no information could be obtained—and when the information from a little more than 5,000 actual interviews was taken, it was found that roughly one-third of it had to be discarded because it was decided that the people who gave the information were unreliable. There are men and women who will say "Yes" to anything. There were others who had no opinion at all and waited to see what the investigator wished, and if the information from the total number of interviews reported upon had been analyzed the deductions made could have been so far off the mark that it would possibly have been quite serious in the financial programme for new telephone developments. When those answers which were discarded as being of inadequate value—because the background from which the information came was so unreliable—were analyzed the figures were so different as to show definitely the importance of discarding all research facts coming from sources in which evidently thought and judgment had not been given to them.

Another interesting fact comes out of proper research by mature investigators. As in the Gas Industry, so in research, there are by-products which may be secured by the skilful and alert investigator. In the case of telephones, for instance, as a by-product there are various rates which could be safely adopted, say, on different kinds of telephone service to which the public would respond with the result that not only was it possible in the telephone enquiry to find out the response there would be to the varying rates of telephone charges, but valuable information was secured as a by-product as to the kinds and forms of telephone service to which the public could respond. I mention all this to indicate the importance first of all of learning to evaluate the source from which the information comes, and, secondly, the importance of having people sufficiently intelligent as to be on the *qui vive* to pick up other information which would be of value and which I have termed the "by-products."

There is one other danger I would like to suggest, and that is the difficulty of distinguishing between facts and opinions. I am sure Mr. Weeks has run into that danger very many times, and the only way one can distinguish between facts and opinions and interpret them is that your investigators shall not have an objective in mind beyond that of finding facts and reporting them. If your investigators have a preconceived idea of their own, subconsciously they will colour their reports and to that extent will nullify the value of their reports.

Finally, if you undertake market research work please do not let it stop at merely accepting the report and saying that it is very valuable. Research work is no good unless it leads to constructive action, and I am sure that most of us here have seen research facts presented to us in one form or another, and upon which no further action has been taken subsequently. Better let the infant die a-borning than let it die of starvation through inanition.

Close Contact with Consumers.

Mr. H. C. SMITH (Tottenham): We were told at lunch to-day that we must beware of experts, and that they were dangerous men. Most of us to-day are in the position of having to weigh up what the experts tell us and have then to advise our Boards how they should spend the rather limited amount of money which we in the Gas Industry have available for advertising in certain directions. In my own Company we are great believers in having the closest personal contact we can with our consumers and in spending as much money as we have available in that direction. I do not mean to say that we do not advertise in newspapers and by means of pamphlets and the other more common forms of advertising, but we do spend as much as we possibly can on district representatives who visit the consumers and try to find out from them how we please and how we displease them. At the same time, our representatives are trying to sell apparatus and get some commission; but I rather gathered from the Paper that Mr. Weeks' idea is that we should have someone whose job it is simply to find out how we stand with our consumers, someone who is not depending on selling appliances to consumers as part of his livelihood. We have tried that with special consumers, and I can say at once that with special consumers the information we get is not too reliable. The answers which are given are coloured by the special circumstances in which these consumers live or work. I gather that Mr. Weeks would make this survey by personal contact between the undertakings and the consumers. That, of course, is bound to be costly; and I should like to ask him whether he would consider it possible to frame questions so that they might be put before the consumers in the form of a competition. We have been asked to say which are the ten most famous film stars in the world, and I should like Mr. Weeks' views as to whether he thinks it would be possible to ask a certain number of questions of consumers and to offer a prize or prizes to those consumers who gave answers most nearly approximating to the popularity of the question as shown by the general result of the competition. If that is worth doing then it could be done at very much less cost than by sending round special investigators who, moreover, would be very difficult to get hold of.

What Other People Think.

Mr. WEEKS: There is a snag about getting that sort of information from competitions. In the case of a competition for the ten most famous film stars, if I went in for it and wanted to win I might feel that Garbo was wonderful, and that Shirley Temple was just a pain to me, but if I imagined that everybody else felt that Shirley Temple was wonderful I should be very inclined to put her first on my list. In other words, in such a competition I think there is always the danger that people do not put what they think themselves but what they think other people think, and I am not sure that that is taking us very much farther.

If I may just speak for a moment on another matter; I would first thank Mr. Whitehead for his general support; but he said that market research could prove anything, and I feel that that is the sort of thing that is going to make you a bit doubtful about market research in the Gas Industry. The position, however, is this, and I am sure Mr. Whitehead will agree. Market research if properly carried out with that care which Mr. Whitehead suggested gets at the facts, and it tells you, shall we say, that 90% is black and 10% is white. If when you have got that information you have people who are prepared to argue that black is white, market research has been no help at all. In other words, when you have the results of your research and have got the information, you have to think very clearly, and, as Mr. Whitehead said, you have to accept these results and to argue on these results as your premiss. If you do that, market research shows you what the position is, and it is then up to you to decide on the right policy.

Mr. A. W. SMITH (Birmingham): In this matter of market research it seems to me that Mr. Weeks' firm has to deal with a very different problem from that which we have to face in the Gas Industry. To some extent it is somewhat similar, but it appears to me that if you carry out market research in the way he suggests you get opinions from the consumers in the Gas Industry which we know definitely are based on ignorance of the facts. You may get a man who prefers electricity to gas, but he has not any idea of the respective merits of the two. It simply is a fashion, and he would like to have electricity, but that is not going to lead you anywhere unless you know the mentality of the man. Therefore, I think it should be part of the policy of the B.C.G.A. to make known what gas can do. Moreover, I think the answer to the argument put forward by Mr. Weeks is that we are not dealing with chocolates or the palates of the people. We are dealing with something which enters into the very life of the people and which is based, as we were told to-day, on thermo-dynamics which definitely are not alterable. We are faced many times with the statement that people would prefer to have electricity for purposes for which we know electricity is not economical or suitable. You get a reply like that from an investigator, and you know from the start that the information is based on a wrong foundation. We know that the complex of our consumers is mixed. We get opinions which are useful but

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★ Investigate the possibilities—attractive literature will assist you—write now for a supply.

Increased activity in the erection of Housing Estates presents a valuable opportunity of good business in the provision of gas fires—Parkinsons built-in fires have been specially designed for this purpose. The well-known "Panno" and "Welwyn" built-in fires in marbled or clouded C.I. plaque surrounds harmonize with any decorative scheme. The unique feature incorporated in these surrounds is of great appeal to builders—a removable access door in the base, behind which is ample space for gas connection to be made. "Flatholme" fires are ideal for bedrooms, simple in design, flush fitting, and available in a variety of attractive registers.

The new "Paravex" Reflector Floor Type gas fire is also a splendid proposition for small bedrooms.

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MEMBER OF THE SOCIETY OF BRITISH GAS INDUSTRIES

,000 ENTRIES

Mr. Esmond Harmsworth On Helping The Farmers

JUDGING took place yesterday in the *Daily Mail* Milk Recipe Co... which has been in ... July 15.

one of the most ...sts organised in ... to fewer than ...e received.

...unds were ...recipes in ...rom milk ... In the ...re first, £160, ...tion ...three ...were first, ...izes of £20, ...nave been reduced by a ...erts to 13 in each class, and ...dging took place in the ...tion, Ltd., 15, Grosvenor-

...DGES

... The Lady Mayoress ...s. Stanley Greenland), ...yoress of Bris... (Mrs. H. ... of Car...), Mrs. ...ster of ... Miss ...ration ... Orr, ...eva... ... the ...on, ...sh, ... of ... Mr. ... Club, cham... cocktail shaker.

Top.—The Lady Mayoress of Cardiff and the Lady Mayoress of Bristol.

Centre.—The Lady Mayoress of London (Mrs. Stanley Greenland) judging the entries.

Bottom.—Mrs. Walter Elliot, wife of the Minister of Agriculture, looking at the entries.

OVEN-HEAT CONTROL

Because of the wide popularity of the "New World" cooker, with its "Regulo" oven-heat control, and the advantage to our readers of publishing the "Regulo" settings for the various recipes, *The Daily Mail* invited Radiation, Limited, to undertake the necessary cooking at their Research and

Demonstration Kitchen at 15, Grosvenor-place, London, S.W.1.

The features of the "New World" gas cooker are well known. As a result of its graded zones of heat in the oven and the perfect "Regulo" control, a whole dinner, composed of various dishes, can be cooked simultaneously entirely without attention.

The "Regulo" settings given with the selected recipes enable the novice in cooking to obtain results equal to the prize-winning recipes.

"DAILY MAIL" LUNCHEON

The judges were the guests of the directors of *The Daily Mail* at a luncheon given in the Hyde Park Hotel.

The Hon. Esmond Harmsworth, chairman of Associated Newspapers, Ltd., presided, and, in addition to the judges, those present included: Lord Astor, the Lord ... (Ald. H. J. Maggs), Sir ... Mayor of Bris... Thomas (Ministry of ... Thomas Baxter (chairm... Marketing Boa... H. James Yat... tion, Ltd.), Mr. ... Dairies), Mr. Hi... ing Board, Mr. M... ford, Ltd.), ... chairman of ... Mr. Stanley ... Associated ... Cranfield ... Millikin ... Associated ... (Advertising ... *Mail*), and Mr. ...

NATIONAL

Proposing the ... Mr. Harmsw...

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Radiation

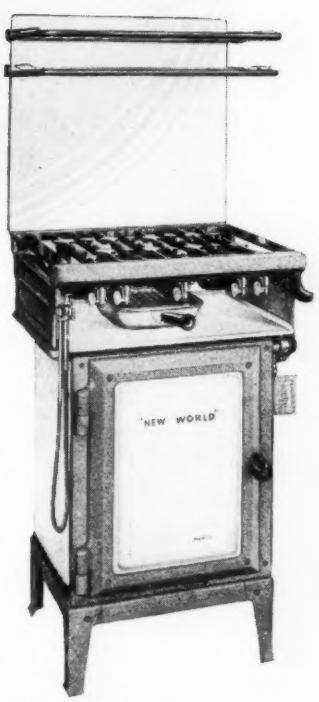
THE NEW WORLD DOES IT AGAIN!

Chosen to demonstrate the overwhelming superiority of cooking by GAS

IT will come as no surprise to the Industry that the "New World" Regulo-controlled Gas Cooker was chosen to demonstrate the simplicity of the recipes submitted in the recent competition arranged by the Milk Marketing Board.

The extensive publicity given to this enterprise, and the fact that "Regulo" settings were appended to the recipes 'because of the wide popularity of the 'New World' Cooker," and "to the advantage of readers" should add still further prestige to the cause of Gas Cooking.

Radiation Ltd. feel much satisfaction in being able to contribute again thus usefully to strengthen the position of the Industry.

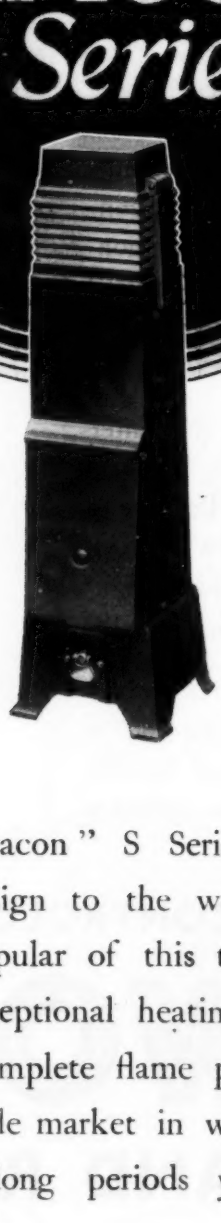


REGULO-CONTROLLED

NEW WORLD

COOKERS AND RANGES

The BEACON (S Series)



The introduction of the "Beacon" S Series has met with widespread approval. It is similar in design to the well-known Cannon "Beacon" Radiator (one of the most popular of this type of heating appliance ever produced), and, like it, has exceptional heating qualities. It has drop-type safety taps and, in addition, complete flame protection. On account of its safety features it is finding a wide market in warehouses, stores, and buildings that are left unattended for long periods yet which require a constant temperature. Full details from—

CANNON IRON FOUNDRIES, LTD., DEEPFIELDS, NR. BILSTON, STAFFS.

others which we have to discount for the very reason that we know they are based on a lack of knowledge. Nevertheless, in spite of all this, I think there are many ways in which market research can help us. At the same time, there is a great deal of truth in what Mr. Whitehead said when he remarked that market research can be made to prove anything. I worked at one time under a chief who often had investigations carried out, but he started off with a preconceived notion, and on one occasion a young officer who was put on to an investigation expressed the view that if he did not prove what the chief wanted he would get fired, and started off by asking what it was the old devil wanted to prove! I am afraid that is the sort of thing we are likely to get in market research.

House-to-House Calls.

Mr. W. J. SANDEMAN (Croydon): For a very long time we have been trying to get additional business by house-to-house calls on our consumers, and very often this has brought us an enormous amount of new business and has enabled us to find out what is in the mind of the consumers and what their reaction is towards gas. We have on occasions had an application for the removal of gas appliances, but we never act at once on such instructions, but always endeavour to find out why. The result of such enquiries in most cases has been that the apparatus has been retained, whereas without such enquiries it would have been lost.

Mr. G. E. CURRIER (Bradford): Mr. Weeks has given us a Paper which certainly opens up a vista of immense activities for everybody connected with gas on the selling side. It so happens that a week last Sunday, before I knew anything about what Mr. Weeks was going to say or had had an opportunity of reading his Paper, I received a visit from an old colleague who is now sales manager at Stretford, and we spent the Sunday evening discussing sales policy in general. It is rather striking that we both came to the conclusion that the thing which was worrying us personally and individually the most was the fact that it was very difficult indeed to know exactly what our consumers were thinking. There was I in Bradford and there was my colleague in Stretford up against the same difficulty and having exactly the same thoughts.

As a humble salesman and not as an expert, may I ask what does the Gas Industry know of market research and consumer research? It is true that as far as the industrial field is concerned—and that has not been touched upon so far this afternoon—the Gas Industry has carried out a certain amount of market research with astounding results; but I venture to suggest that we have not applied these same principles to the domestic field, and I echo Mr. Weeks' sentiment that if only the Industry will really face up to this question of market research as a result of this Paper, then the Paper will have been amply justified. I should like to ask Mr. Weeks if it would be possible to link up this great question in the same way that we have linked up our publicity. We are told, and quite truly, that it is necessary to supplement the national publicity for which the B.C.G.A. is responsible with our own local publicity. Would it not be possible in the same way to link up the market research, which I sincerely hope the B.C.G.A. will institute by independent investigation, with investigation by our own people locally? I do not quite hold the view which has been expressed that our own staffs are the worst people to get this information. If we do our work properly and if we are well-known—as generally the local gas salesman is well-known in his district—my experience is, and I know it is also the experience of my brother salesmen, that the consumers are very open-hearted with you, and I am rather of the opinion that the results of the investigations which the undertakings carry out on their own account can, to a very large extent, check up any independent investigations by the B.C.G.A., and would also bring to light many facts which the independent investigation may not.

Our chief difficulty in the North of England especially is to get people to become gas-minded, and I look with considerable hope and confidence to market research to help us to formulate a policy which will, much more quickly than our present policies, enable us to get our consumers to be thoroughly gas-minded. Lastly, I quite agree—and it has been proved without any possibility of disagreement in Bradford—that the more we get all employees of the gas undertaking to become salesmen, becoming first of all gas-minded and using as many gas appliances in their homes as possible, the more do these people become missionaries for gas. For a number of years in Bradford we have had frequent meetings of every member of the staff who comes in contact with the public. The Engineer and Manager addresses these meetings and gives every single employee who comes in contact with the consumers a lucid, reasoned outline of the policy of the undertaking, so that these employees are able to answer questions that consumers put to them. Furthermore, at these meetings—and this is linking up with market research—questions are invited from every employee as regards any complaints or criticisms they have had regarding the selling policy of the department, and I can assure you that the answers to some of these questions are very illuminating.

Unguarded Statements.

Councillor GILES: My only qualification is that I happen to be a member of a Gas Committee. It seems to me that this question of market research, publicity, &c., is being befogged by the rather unguarded statements which are made in the publicity of our chief competitor. I find that a very large part of my time as a City Councillor is taken up explaining my actions to my electors who prick up their ears for two reasons—one is that they know I am a gas-bag and the second is that they want to know the truth! But they are not satisfied that they get the truth. They think I am an interested party, and I feel convinced with Mr. Weeks that if we were to send round a man with the Gas Department badge on his cap the consumer would think he was being "got at." The consumer is an ignorant person like myself, only more so. He may not have had any technical experience in engineering or thermo-dynamics and he has not any idea whether it costs more to heat his wash-boiler with gas or electricity, and he is not going to believe the gas man or the electricity man when he is told that one or the other or both is the cheaper. I will give you an example from my own personal experience. About two years ago I was rather alarmed at the size of my gas bill for the quarter, and at that rate it would have been nearly three figures for the year. It is only a private house, and I took the trouble to do all the calculations to find out what it was going to cost me if I adopted electricity. Being a member of a Gas Committee I had to be loyal to gas, but to my astonishment, after making all allowances for differences in tariffs and appliances, I found that my electricity bill would have been at least three times my gas bill, and that satisfied me. But the ordinary man in the street has not those facilities; he has not anybody to turn to, and therefore cannot the Industry give some certified information so that the person in the municipal house or the mansion can really know what he is paying and what he is getting for his money?

Four Things in Common.

Mrs. EILEEN MURPHY (B.C.G.A.): I do not know a thing about market research, but from what I have heard of Mr. Weeks' Paper I conceive that the only difference between market research for chocolates and gas is that the job is very much harder for chocolates. In the Gas Industry we are really already carrying out market research; we are actually doing it now, in fact, but we do not seem to call it by that name. Neither do we make full use of the facts that we know. Everybody in this world has four things in common. We must have a roof over our heads; we must wear clothes; we must have heat; and we must eat food. Chocolates do not enter into that at all except, of course, that the chocolate people will tell you that chocolate is food! Nobody, however, can argue that heat does not enter into the four things I have mentioned, and therefore gas comes in because the Gas Industry is the heat provider to the whole world. I say that the Gas Industry should make use of the fact that we provide heat in the homes through the apparatus, and through the apparatus being in the homes we know the consumption, and by getting into the homes to read the meters we get to know the habits of the people. I think we ought to work on the tie-up between the apparatus and consumption and what we know of the habits of the people and the fact that we supply gas to ten million people in this country.

Mr. F. J. EDMONDS (Waterford): There is one point upon which I should like to have some information, and that is, what would be the cost to a small gas undertaking to carry out a market survey as suggested in the Paper? We hear of the ideal things which ought to be done, but in my case I represent a small Company without any hope of ever being brought into a holding company, and our financial position when fighting a very keen competitor is such that we cannot afford to spend money on such luxuries as market research. Therefore I think some others here as well as myself would like to know what is the likely cost of carrying out such a market survey. This is work which, in my opinion, ought to be carried out, but how are we going to do it? If we add two or three members to our staffs for the purpose it will increase our liabilities very considerably. Would it be possible for the B.C.G.A. to take this matter up in such a way that they could send round experts to various undertakings at a small fee? I am speaking plainly on behalf of the small undertakings and am expecting that the cost of such a service would not be borne in proportion to the amount of gas being made by the smaller undertakings, but would have to come, to some extent, out of the funds of the Association. I do feel that something of that kind might be done, because it is rather discouraging to people like myself to listen to Papers of this kind and know that we have not the slightest hope of doing what is suggested unless we have some sympathetic financial help.

Machinery Already Exists.

Mr. T. REYNOLDS (Stockport): In reply to the last speaker I would venture to suggest that he already has the machinery for carrying out a market survey in his own town, if he would utilize it properly. I am referring to his staff—fitters, meter inspectors, and the remainder of his staff generally. But he will have to give them some inducement to push gas, other than the wages they receive in the ordinary way. For a number of years, I know, some of my colleagues have been doing this. We ourselves have been giving a bonus to every member of the staff, other than the sales staff, for pushing appliances, and we have gone a stage farther and have made friends with every builder and plumber in the town by giving them 10% on every piece of apparatus they sell.

Mr. W. C. JACKSON (Neath): I agree that we have the wherewithal in our own towns for carrying out market research. In my own case I have made it a practice since 1920 to employ women as maintenance inspectors and as my contact with the consumers, and we believe we are on the right track so far as this matter is concerned. We have seven of these women maintenance inspectors at the present time, and they cover the district once in every 9½ weeks. At the expiration of that period I have a meeting with these particular staff members, and these meetings last between three and four hours, when

we discuss all the difficulties experienced during the previous period in the district. This policy has made a very considerable addition to our business.

Speaking now as Director of another small Company, this Company was in the same position of keen competition with electricity as was mentioned by Mr. Edmonds. The electrical undertaking in that particular town was bought a few years ago by the local authority, and they smashed the Gas Company in every possible shape and form, and gas was decidedly going out. As a result, however, of a considerable amount of discussion with my co-Directors, we engaged a woman as maintenance inspector and also to make contacts. I can assure you that the results have been absolutely wonderful so far as this small Company is concerned. This policy has stopped the rot, and the sales of apparatus have gone up distinctly. I think this shows that if we can get contacts with our consumers and get to know the peculiarities of each house and the manner in which the women react to gas, we can make a tremendous difference to our sales, and I thoroughly agree that it is high time the Gas Industry looked into this matter of making better contacts with consumers.

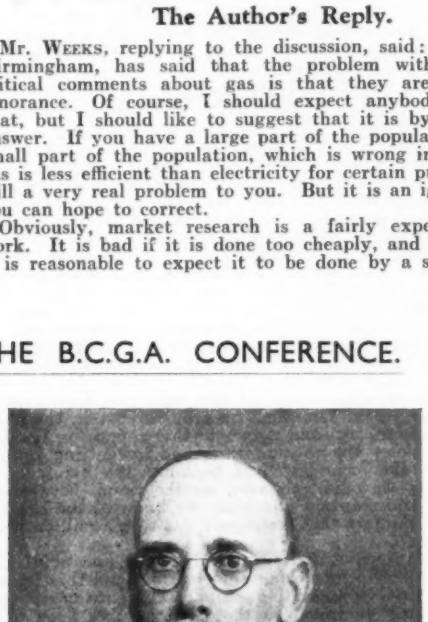
The Author's Reply.

Mr. WEEKS, replying to the discussion, said: Mr. Smith, of Birmingham, has said that the problem with most of the critical comments about gas is that they are the result of ignorance. Of course, I should expect anybody here to say that, but I should like to suggest that it is by no means the answer. If you have a large part of the population, or even a small part of the population, which is wrong in thinking that gas is less efficient than electricity for certain purposes, that is still a very real problem to you. But it is an ignorance which you can hope to correct.

Obviously, market research is a fairly expensive piece of work. It is bad if it is done too cheaply, and I do not think it is reasonable to expect it to be done by a small undertaking itself. To my mind the first step, as one of the speakers has suggested, is for the B.C.G.A. itself to carry out research for the whole of the Industry. I quite agree that if the research is carried over Great Britain and Northern Ireland it will not be a very great deal of help to our friends from the Irish Free State, because everybody knows that the Irish think quite differently about things! But I do feel also that a full-fledged direct market research carried out, I hope, in a manner which would satisfy both Mr. Whitehead and myself, could very well be supplemented by small local efforts, not of necessity always with trained investigators. I think any tendency to gather information through fitters, maintenance men, demonstrators, &c., is a step in the right direction, but I also think that information gathered in that way about your local conditions is going to make any general national research very much more valuable to each individual undertaking. I have said that market research is fairly expensive, but I would like to point out that you could cover the whole country for about one quarter or less of the amount the delegates have spent in coming up to this Conference! I do not put that forward as an alternative to conferences, but simply to show that, in an Industry of your size, with an income of I do not know how many millions sterling a year—after all, you are a very much bigger Industry than the chocolate industry—the cost of a few market researches is absolutely nothing compared with the value which I am perfectly certain that research would bring to the whole Industry. It is a question of balance. A big and important industry such as the Gas Industry can afford to do things in a big way. I must not get spell-binding, but I feel that market research to an industry of your size is essential, and one might even go so far as to say that an industry of your size ought to be ashamed if it does not do it.

The CHAIRMAN (Mr. H. Stanley Taylor, who had subsequently taken the chair when the President left to attend the other session) proposed a hearty vote of thanks to Mr. Weeks for his Paper. This was seconded by Mr. W. N. WESTLAKE (Exeter) and carried with acclamation.

THE B.C.G.A. CONFERENCE.



Mr. E. J. MACRAE.

Modern Influences in House Design

BY

E. J. MACRAE, F.R.I.B.A.
(Edinburgh City Architect)

A Paper presented at the Third Business Session on the Monday Afternoon

I.

Domestic architecture is at present a subject of great importance. Under the Act of 1930 it is estimated that more than a million people will be re-housed in close on 300,000 new dwellings, built on virgin sites near the great towns or on cleared sites in the heart of our cities. The Act applies only to a section of the community; and the Council for Research on Housing Construction has hazarded the estimate that " an annual production for Great Britain of 250,000 dwellings for at least five and probably ten years is not incommensurate with the need."

The National Housing Committee in 1934 put the total housing requirements for the next ten years at nearly 2 million houses. The total number of existing houses in England, Wales, and Scotland is about 10¼ million, and of these about 3¼ million have been built in the last 16 years. Personally, I think it unlikely that, with economic conditions as they are, and the necessarily cumbersome machinery of housing legislation, the proportion of new houses can be nearly as great as estimated, but there is no doubt that it will be so great as to alter the appearance of the country within our lifetime, and we shall see new suburbs and satellite towns grow up on a large scale near the great cities. Our cities themselves will alter their appearance as old dwellings are superseded by new types designed on modern principles and constructed with new materials. Bold experiments are being made in the planning of new towns and the replanning of old ones, and just at present most of our large cities have one or more very large schemes in hand. Everyone in the long run will be affected by these changes, and there is need for a well-informed public opinion on the subject.

II.

There is to-day a growing public interest in the problems of housing and town-planning. It is probably true that the design of houses has been influenced less by the new materials and methods available than by the social changes which make people impatient with traditional ways of life and work. The stately Georgian mansions had magnificent public rooms while the space allotted to the working parts of the house was starved and convenience in running the house was not considered. The building was too often considered by the architect as a monument to himself. There is the authentic case of a Victorian architect who refused to make alterations to the design of a house to suit

his client even though she implored him with tears in her eyes, with the remark "Madam, do you realize that you have only to *live* in the house." To-day, in planning, emphasis is placed on the work of the woman in the kitchen. Women have begun to ask themselves how their housework can be made easier by scientific planning incorporating the mechanical services which are now available, and the kitchen is looked on as a compact comprehensive workshop arranged to suit the work required and not to be used as a living room as well.

But labour-saving is not merely a question of careful lay-out. It is a question of equipment too. At this point the architect must consider the question of heat supply—a question of vital interest to this Conference. In any kitchen, heat is needed for cooking, for hot water, for clothes-washing, and even, nowadays, for refrigeration. When the heat-supply for these purposes is clean, flexible, and reliable, as in the case of gas, it must obviously save much avoidable work.

The gas cooker, washing machine, and water-heater are like modernized plant in a factory. They lead to shorter working hours, easier working conditions, and quicker results, and these mechanical appliances are now becoming available to all as the standard of living is raised. The activities of housing authorities and building societies have expanded the demand for modern equipment. Their large-scale operations have made possible the mass-production of labour-saving appliances. At the same time the gas undertakings themselves have been enabled to offer their appliances on progressively easier terms, and to educate new consumers in their use.

At a recent international conference in Prague a large part of the matter discussed was on the equipment of small dwellings and that, within the permissible limits of size and cost, has become a very important matter. For this type of house there is no doubt that in Scotland the equipment has been standardized at a very high level, as compared with either English or Continental standards, though everywhere an attempt has been made in the simplest way to provide all the essential services.

Let me describe the scullery or kitchenette in detail for one of these houses provided for tenants removed from insanitary houses in Edinburgh. There is an ample window at which is placed an enamelled earthenware sink for washing dishes and a deep tub for washing clothes each with hot and cold water; at the side is a good draining board for laying dishes on. Between the two fittings is a special attachment for a wringer. From the ceiling is hung from pulleys a clothes drying rack. On the outer wall is a concrete larder ventilated from outside and with a cold shelf below for vegetables, &c., the floor space underneath being useful for placing pails, &c. Where the coal bunker is in the scullery this stops at a low door height and the large shelf above is useful for large articles—*e.g.*, the wringer when not in use. On a wall placed so as to avoid draught is a gas cooker of a small type specially designed for such houses, but giving the essential requirements. To prevent accidents from small children playing with the taps a special control tap is placed on the supply pipe out of reach. This cooker is installed as part of the house and is worked from a coin slot meter. A specially designed splash plate of enamelled iron is fixed not to the wall but to the back of cooker, having a space behind and so not forming a lodgment for vermin. Of 12,000 post-war houses owned by the Corporation all have gas installed. Compare the comfort and convenience of a house so equipped with the houses often consisting of nothing but one room with a fireplace and open grate and having for sanitary provisions the communal use of a sink with cold tap in a common lobby or staircase, and a W.C. similarly placed. In the case of houses for ordinary (not dispossessed) tenants the gas cooker is hired or lent from the Gas Department. One area with 1,450 houses has gas for lighting in both streets and houses.

It has been said that in many newly-built houses the kitchen and the bathroom are the only truly modern rooms. This is another way of saying that advances in house design and equipment have been governed mainly by a change in social habits. But we have now not only a demand for labour saving but the appreciation of a higher standard of comfort. The bathroom was a luxury to Victorians; it is a necessity to Georgians, and a reliable hot water supply has become a necessity in modern bathrooms. The Gas Industry is fortunate in having several systems of hot water supply which can be adapted to the differing needs of different families. It has perfected both the storage and the instantaneous systems of water-heating. Each is subjected to thermostatic control, and can be made to feed several hot taps, both in the kitchen and the bathroom, with the prevention of heat-wastage while ensuring a constant supply of hot water. Gas water-heaters of the latest type have already been installed in many working-class estates.

The centrally-heated house on the American style has not made appreciable progress in this country. We still like to see the source of heat in a living room, and the early gas fires were designed as an imitation of the accustomed coal fire. The evolution of the gas fire is interesting. Early examples had the defect of unduly heating and drying the air of a room. From the point of view of appearance they were, to put it no stronger, in keeping with the other "ornaments" of the room!

Science has produced gas fires which are free from smell and which aid ventilation, while the old tradition of design has been broken and the design made to suit the architectural requirements from first principles, producing, for example, the panel type with a square of radiant heating surface set above the floor level and not combined with an unnecessary hearth.

The flexibility and convenience of gas heating is a strong point in its favour. There are occasions when a fire is needed only for short periods. In such cases a gas fire, which can be put on or off at the turn of a tap, makes for economy both of fuel and of effort.

III.

So far we have considered the equipment which is now becoming available for the individual house, but the broader aspect of town-planning must be mentioned which regards the problem of housing from the standpoint of the community as a whole and the suitability of different forms of housing.

The present outlook on the question of the tenement or flat *versus* cottage for houses is interesting, and in assessing the value of the opinions on either side one must make allowance for tradition and custom.

Both idealists and the most stern disciples of the steel framed lofty tenement will agree that, all limitations of site and economics apart, the one-family dwelling in the form of a cottage with its own garden is the most satisfactory form of housing, and from many points of view the garden city of cottages with its works on the spot is the ideal solution. The facts, however, remain, that for many cities, the garden city or the satellite town are at present unattainable—had they been begun in 1919 all would have been different—and it is necessary to find houses for workers within reasonable reach of their work. Obviously this cannot be done if densities of 8 or 10 to the acre are used, and some form of more intensive development is necessary. To some minds the architectural conception of steel framed structures of imposing mass with their many storeyed floors rising among the clouds is an entrancing one; but it is easy to lose sight of the human point of view. No doubt for many people the vertical arrangement of dwelling with elevators makes an appeal especially to those who have no children, and who do not wish the trouble of gardening, but the ordinary working-class family, in this country at least, does not like to live in skyscrapers.

The Scots tenement, as evolved since the war, is perhaps one of the best examples of a happy mean. In Edinburgh the ancient tradition, evolved from French influence and the exigencies of an area walled in for protection against the enemy, was of a lofty tenement rising to as many as 13 storeys and forming the prototype of the modern skyscraper. Experience in later centuries as to risks from fire and danger from falling decayed masonry and loss of light and air from congestion resulted in legislation in 17th century limiting the height. The post-war tenement is of moderate height, three and sometimes four storeys, and of shallow depth lit throughout its depth. The individual staircase is always employed. The type is distinctive, quite different from English and Continental types of tenements, both in internal planning and in general appearance. On the other hand, cities like London and Liverpool with a tradition of low buildings are now building to heights departed from here many years ago.

Every city must work out its own schemes to suit its own conditions, and there is no doubt that modern conditions of housing layouts demand the use of various types of houses. The example of the new satellite town of Suresnes, near Paris, may be cited. In this, private houses of one and two storeys and tenements up to five storeys are planned as a whole, with perfect harmony.

Much public interest has recently been centred on the rehousing plans of Manchester, Birmingham, and Leeds.

Perhaps the most arresting part of the Manchester programme is the proposal to build a satellite city at Wythenshawe, with parkways to prevent ribbon development, a permanent agricultural belt, and large parks and open spaces. More than 5,000 houses have already been built here, or are in course of erection; 20,000 more are scheduled for building. By a decision of the City Council, Wythenshawe will be a smokeless town. Enamelled gas cookers, wash-coppers, and gas fires are installed in the majority of houses on this estate and any open fires will use gas coke instead of coal.

This leads up to an aspect of the Gas Industry's work which is of special importance. Gas and gas coke are smokeless fuels. It is impossible to overlook the fact that our cities need a very large measure of smoke abatement. The pollution of the atmosphere is so severe as to cause not only discomfort and cost in houses, but a heavy expenditure in replacement of decayed stone, &c. In this evil practice the worst offender is admittedly the domestic coal fire. Not only does the substitution of gas for coal assist materially but the hope lies also in the direction of the use of by-products producing smokeless fuel. If this can be retailed at a reasonable rate and made available for ordinary existing grates and of a type free from danger in the event of down draught the possibilities of improvement are enormous. So far, one of the obvious limitations is the fact that any smokeless fuel requires a relatively large amount of cubic grate area and cannot easily be adopted for existing grates.

Discussion.

Mr. J. MILLER (an Edinburgh builder): With regard to the installation of gas in houses that are being erected, generally the purchaser is the one to say whether it is to be gas or any other form of domestic heating. Practically everyone wants at least one coal fire in the house, generally in the living-room. We find that between 90% and 95% want gas for other purposes—for heating of bedrooms, cooking, or the heating of water. Between 5% and 10% go in for the all-electric house. I was asked recently if there were many people going in for the all-electric house now. In my experience there was a greater demand for that kind of house two or three years ago than there is now.

Colonel W. M. CARR (President of The Institution of Gas Engineers): Mr. MacRae will forgive me if I suggest to him that his communication is an architect's one, and that he, like many of us and many architects, is still in a state of indecision on this very important question of heating. If we refer to his Paper we note that he says "Where that coal bunker is in the scullery this stops at a low door height." That very line discounts so much else that is in the Paper. I heard with great interest the remarks with reference to the great housing estate that is being built at Wythenshawe, because I live in very close proximity to it. It was my practice some years ago before that development started to ride each morning along that road in that area. I do not go that way now, because in the morning I do like to see the sun. As a result of the 5,000 houses now erected there is an appalling smoke pall hanging over what used to be a beautiful area.

We must not blink at facts. Let us look at the truth. A great smoke pall has been created over what was a beautiful rural area, and we claim that we are making progress in housing development! It is true that the Manchester City Council have now decided that they should do something. It is so obvious—indeed it is essential—that something must be done in this matter of domestic smoke. I think it will only come about if we are in a position to say that nothing but smokeless fuel must be used in addition to gas and electricity. Until housing authorities as a whole are prepared to face this, these facts will still continue as long as we provide the coal bunker.

Gas for Continuous Heating.

One other point—Mr. MacRae said that in Scotland one of the obvious limitations in the use of smokeless fuel is the fact that a greater cubic grate area is necessary than for coal. Well, we find, at any rate so far as fires operating with coke from English coal are concerned, that the grate areas normally provided in England are suitable for receiving conversion sets for the burning of coke. In Edinburgh you have cheap gas. May I put forward a thought to your City Council, and that is that when you are next contemplating making a reduction, instead of making a reduction in the flat rate you should make a reduction so that those who want to use gas for heating can use it in place of solid fuel for continuous heating. You can do it easily by the introduction of a tariff which will give the benefit of that reduced price to those who make the utmost use of your services. It is a point of vital importance to the extended use of gas in the homes, to the labour-saving question, and to the smoke abatement question. We could displace solid fuel by gas entirely, at a cost to the public of the United Kingdom no greater than is being paid for fuel to-day. That is the question to which we must apply ourselves, and we ask our friends in the architectural profession to give every encouragement by coming along and saying, when they are developing their housing schemes, "We are prepared to recommend the Council to build houses which are completely labour-saving and in which there will be no solid fuel."

On the important question of water heating, Mr. MacRae was kind enough to say that the Gas Industry has perfected both the storage and the instantaneous systems of water heating. There is no doubt about it; we have very much better water heaters than we had. So far as the instantaneous system is concerned, of course, only gas can do it. No other fuel is possible for the instantaneous heating of water, and gas has an enormous advantage in that only the water that is required for use is heated. It is economical even in the house where the purse is most limited. We also have the storage heater in common with our electrical friends, except that we have a better storage heater where that storage heater is operated with a thermostat; in other words, it can be made to heat water more quickly than the storage heater which is heated by electricity, and that while we share with electricity the fact that we can both provide water heating by a storage heater, we can provide it very much more rapidly and at very much less cost, to the householder.

30,000 Houses Without a Coal Fire.

Mr. C. S. SHAPLEY (Leeds): In Leeds we have a five-year plan of slum clearance, and 30,000 houses are to be built. As opposed to the general idea that one coal fire is necessary, I am in the happy position of stating that there is not one coal fire in any of these 30,000 houses. Leeds has had many housing estates, some of them a disgrace owing to the smoke pall which they throw across the city. The new estates are to be smokeless. There will be one coke fire in the houses, a triple-purpose fire that warms the living-room, heats the water, and does the cooking. Incidentally, the oven is in the scullery, and the scullery gets an appreciable amount of heat from that oven. The cooking is done, when the coke fire is not required, by a gas oven. The wash-boiler is heated by gas, and there are gas plugs in every room, every room being provided with a 9 in. by 9 in. flue. Leeds, therefore, can claim that it is leading the way, as usual. The Housing Committee have recognized that ventilation is necessary. To build a house with a room without a flue is, in my opinion, a crime. I have lived in a very modern house with three bedrooms, each of which had no flue, so I speak from experience. It is a credit to the Leeds Corporation that they have attempted to build houses that I think will please the populace; but hitherto I do not think women have been consulted enough as regards housing problems.

Mr. E. PARRY (Oldham): In Oldham for over two years we have had houses which are entirely smokeless, with coke, gas, and electricity. The whole position is that with a coke fire you can do your job better and get more heat at a good deal less cost and certainly a good deal less labour. We supply seven local authorities in addition to our Oldham district. Three of these authorities are building housing estates and putting in coke grates and eliminating coal fires. It is eminently desirable that we should have a smokeless atmosphere.

Mr. DARCY-BRADDELL (London): The only reason why I intervene in this debate is because I believe it is a good thing to have in any discussion a quite dispassionate point of view. I claim mine is quite dispassionate because I happen to be a really exceptionally reactionary person; that is to say, I do not care tuppence whether the world is lit by gas or electricity. I was present to-day at the Luncheon at which Sir David Milne-Watson described his experience of climbing up the hill and seeing the superb view of Edinburgh from the Castle spoiled by the smoke. This morning, with a friend, I went to the top of Arthur's Seat, and the first remark my friend made was: "What a dreadful thing that gasholder is down below." And it is a dreadful thing. It blots out half the magnificent aspect of Holyrood. It is all very well talking about the smoke, but if we have to choose between it and the gasholder, let us have the smoke! It is a matter of the greatest importance where you put your gasholders. I was interested to hear of the Leeds plan to build 30,000 houses without any coal-burning fires. I do not know whether you have ever lived in such a house. It is a very inhuman thing to warm your feet at a fire that is not of coal. You must have in a house one fire that burns coal; it is an elemental thing.

The CHAIRMAN (Lord Dean of Guild Wilson): Gasholders must go somewhere. It is a question of striking a balance, and if a thing is useful it may not require to be beautiful.

Mr. MACRAE, in the course of his reply, said: With regard to the question of fuel, Edinburgh is building houses for dispossessed tenants, and as a rule these are the very poorest tenants. The question of a penny per week in the cost of rent for their houses would be of vital importance to them, and as things are at present there are few of these tenants who could afford to have all their heating as well as their lighting by gas.

Councillor CATHCART (Edinburgh) proposed a vote of thanks to Mr. MacRae, which was seconded by Councillor MUTER, who remarked that nothing was more important than the housing and rehousing of the people, and the Gas Industry at all times should play its part in that great effort.

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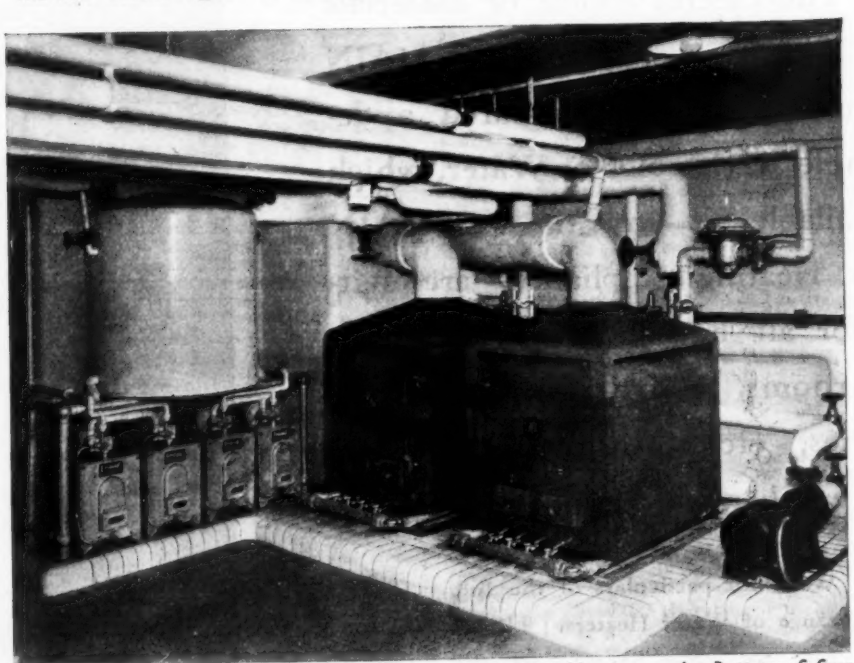

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THE B.C.G.A. CONFERENCE.

THE USE OF Posters in Publicity

by TOM PURVIS

An abstract of an Address at the Fourth Business Session on the Tuesday morning, in the course of which Mr. Tom Purvis, the well-known poster designer, suggested that from the Industry's point of view the case for poster advertising was unanswerable and that all the benefit came back to the Industry itself and to no one else.

Having spent most of my life and training as a designer of posters, I have seen advertising change from a haphazard messing up of God's fresh air into what, at its best, is a highly organized and scientific specialization.

While the Victorian industrialist was content to ignore the artist, the artist of that period railed against the industrialist and the machine. Now, however, the industrialist freely acknowledges that the artist is just as necessary to industry as the man who tends machinery. A revulsion of feeling in the mind of the artist towards commerce during the last twenty years and the more favourable attitude of the industrialist towards the artist has enabled the latter to look to commerce for an outlet to his energies.

The primary point to remember is that the poster is not only to act as a silent but persuasive salesman, but is to do the work of the shop window, which is to attract the eye sufficiently to entice the prospective customer into the shop through the following mental phases: Initial shock value (realization of novel pattern); curiosity aroused (poster holds the eye); interest (eye deciphers the message); delicate phases to Desire, which may also become Need, which makes for the decision to buy. The poster must, therefore, compel attention and direct attention to itself, as one distinct from many, and this may be largely achieved by simplicity, homogeneity, and completeness. Without giving offence it should possess a punch, hold interest, and not puzzle, repel, or disgust. Details should be left to small bills and newspaper advertising campaigns, run in conjunction with posters, which are more leisurely read. Another great value of posters is in the training of the "memory eye" of the public so that the commodity will be chosen unconsciously as a familiar thing. Eccentric distortion is always inexcusable in a salesman; the real measure of the successful poster lies in the skilful blending of the sales message with artistically trained judgment.

The specialist entrusted with the design should be expert enough and have sufficient licence to be sole judge of what is likely to harm or strengthen the appeal or quality of his work. One of the greatest factors militating against fine design is that everyone considers himself a useful critic, and to meet everyone's criticisms will render the finished work completely innocuous. On the other hand, a bold stroke will attract attention even if it fails to please everybody, and what commodity advertised is so completely universal that it will itself appeal to all? The general trend in quality and design is very definitely upward, my experience being that there has been a steady improvement in imaginative and technical accomplishment and appreciation all along. Haphazard methods and personal idiosyncrasies in selection of drawings or ideas are giving place to the realization that even the best space requires economical using without loss of quality. The expense of haphazard methods lies in their failure.

Modern Art in Poster Design.

I am not biassed on the side of posters, but newspaper advertising is much more a matter for team work in which the artist is merely a member of the team. Many smile at the mention of modern art, but I do think we owe much to those who have opened up lost or forgotten possibilities of the value of simplification of form in expression, and the tremendous value of impressing ideas so expressed on the mind by rhythmic and ordered pattern. The elimination of the inconsequent necessarily gives force to the essential. Modern art must be really good to appear convincing and the one danger is that it attracts amateurs who think that they have merely to be simple to be clever, whereas it is the converse that holds true. The reversion to organized pattern and simple design is doubtless brought about by the fact that there is nothing new under the sun nowadays.

A poster should convey its message at a glance, and it is therefore somewhat strange that in its commonest form it consists of a picture of the article advertised with name and a phrase. There is nothing to show why that particular article should be preferred to any other, the selling idea being absent. If the article must be represented, then it should have an appeal or symbolize the effect of possession. No illustration is good enough unless it dramatizes the quality of the article so well that words become unnecessary. But deficiency can be supplied by words, wittily chosen, as in the K.L.G. Sparking Plug posters, "Too Good to Miss," or Guinness Stout posters with their smiling glasses of stout—perfect examples of witty design—and who could resist "My Goodness! My Guinness!"

To-day it might be safe to hazard that there are half-a-dozen good posters on the hoardings, most of which may be credited to about three designers. Modesty forbids me to name the first! That we have men and women capable of the best may be seen by a survey of railway posters; and the mystery may be attributed to price, for the average fee surely cannot command the attention of our best designers. The amount allotted to design is out of all proportion to the expenses of printing and posting. Poster design is a specialist's job, and the advertiser should specify selling-points but not dictate pictorial method. If the advertiser who employs a first-rate designer would only bring himself to believe that the poster designer knows a deal more about his work than he does, and allowed the designer to create the poster, he would get greatly improved results.

With household articles the advertising should be addressed mainly to women. Anything that is sold for capital expense is a different proposition, however, and brings the husband into court. The campaign, therefore, should convince the woman, and then supply her with arguments to make the man disgorge.

Chromolithography and Contrast.

Colour is very important and its use is hospitably invited by the poster. Chromolithography has rendered the use of a liberal assortment of colours at once simple and cheap, and tremendous advantages are to be gained provided the colours are properly used. A poster in colours enables the manufacturer of any brightly-labelled product to place it before the eyes of the public "in its habit as it lives." This is a considerable advantage where it is desired to impress the appearance of the article on the minds of the public, and where there is danger of substitution the advantage of the familiar coloured label becomes even more apparent. Colour also gives emphasis to an announcement and renders it easier to read when the right combination has been chosen. Too violent a contrast causes blurring, but the other kind of contrast—one poster to another—is a valuable aid to advertising effect. Heavy printings in colour keep clean and lend emphasis, but a black-and-white bill, with perhaps another colour to help, takes advantage of the prevalent use of heavy colourings, often with great effect. Many considerations other than artistic enter into the use of colour, and a shrewd advertiser will observe the tendency of his day, for when the majority use the coloured bill, he will take advantage of the white or *vice versa*, and so seize the opportunity to obtain a contrast effect.

From personal experience, I have no hesitation in saying that posters pay. But it has not been my intention to argue for poster advertising as against any other forms of publicity, which all have their places and advocates in advertising. Gas cannot afford to overlook any form of publicity. Gas has a marvellous story of reliability to tell, and the advantages of gas are now being stated attractively and compellingly in national and provincial newspapers, and that forms an admirable background for a poster campaign to bring out salient points in particular districts.

THE B.C.G.A. CONFERENCE.

A REPORT ON THE

by
W. DIETERICHS

Work of the Technical Sub-Committee

Presented by Mr. W. Dieterichs (Chairman of the Technical Sub-Committee) at the Fourth Business Session on the Tuesday morning.

The Industrial Centre scheme has now been in operation for two years and I have been asked to report on the work done by the Technical Sub-Committee and the Central Office. I wish to make it clear at the start that this report does not cover the work of the individual centres, since the volume of work which they have carried out is obviously too great to be included in a brief report. The activities and functions of an individual centre have been fully dealt with in a recent Paper* to the Southern Association of Gas Engineers and Managers which is available for anyone who is interested in that side of the subject.

There are now 10 Centres, 8 of which publish official membership lists. The Bristol Centre has no official membership list as yet, but does in fact act as Centre for the West Country. The Scottish Centre caters for all Scottish members of the National Gas Council. Excluding the Bristol and Scottish Centres there are 253 subscribing undertakings representing 69% of the gas make of the British Isles. The following table gives a list of the Centres showing the number of subscribing members attached to each:

Centre.	No. of Members (including Undertaking running the Centre).
(*a*) Gas Light and Coke	78
(*b*) South Metropolitan	10
(*c*) Birmingham	50
(*d*) Newcastle	11
(*e*) Cardiff	17
(*f*) Manchester	18
(*g*) Yorkshire	51
(*j*) Liverpool	22
(*h*) Bristol	(Provisional)
(*k*) Scottish	,,

The Committee, composed of representatives of each Centre and constituted as a technical sub-committee of the Joint Co-ordinating Committee, held its first meeting on June 22, 1933, and has met once a month since then in London, Birmingham, Cardiff, Leeds, Liverpool, and now in Edinburgh. The functions of the Committee are to co-ordinate the work of the Centres in developing industrial applications of town gas, to facilitate personal contact between their staffs, and to assist in the distribution of technical and commercial information.

The first work of the Committee was to devise a scheme whereby technical information could be effectively filed. A scheme has now been standardized throughout the Centres and their subscribing undertakings, which has made it very much easier for all concerned to obtain information on industrial processes. One part of the scheme consists of standard forms (known as Installation Sheets) on which details of existing interesting installations are recorded. Each Centre fills in these forms and returns them to the Central Information Bureau where they are duplicated and a copy sent to each Centre. In this way a classified library is being built up at every Centre containing information on all kinds of industrial problems and processes. The information on these forms may be of a confidential nature and such as consumers would not wish to come into the hands of their competitors. The forms are therefore kept strictly confidential to the Centre staffs.

In the case of new problems and new developments on which no adequate information is already filed there is a simple standard procedure by which the Central Bureau circularizes an enquiry to all the Centres. The enquiring Centre receives direct copies of all the replies and the other Centres receive a précis of the replies, so that they all know what information is available and where it can be obtained. A considerable number of these enquiries has been sent out during the last year. Typical subjects have been:

Bottle sterilizing.
Wire tinning plant.
Glass melting furnaces.
Glass bending furnaces.
Bread baking (methods of conversion, consumption figures, &c.).
Billet heating furnaces.
Central heating (installations, gas prices, &c.).
Bitumen melting.
Milk pasteurizing.
Magnesia calcining.
Metal melting (volatilization, re-metalling bearings, &c.).
Public baths.
Bright annealing.
Varnish boiling.
Galvanizing.
Flame cutting.
Fish frying.
Malt drying.
Veneering.
Oil boiling.

The miscellaneous industrial enquiries which used to be handled by the B.C.G.A. are now being dealt with by the Centres.

Some of the most important work of the Centres Committee is embodied in its detailed reports on particular processes. These represent the result of careful investigation by the members of the Committee of processes which are considered of national importance. Alternative methods of applying gas to the individual processes are compared, the quantities of gas and of competitive fuels required for a given duty are estimated, and from this is deduced the price at which gas would have to be sold to obtain the load under any given conditions. The first subject dealt with in this manner was bread baking, chosen on account of the enormous potential load for gas, and because of the tendency for the baking industry to change over to more easily controlled fuels than coal and coke. It was felt in many quarters that it was essential for gas to make a bid to obtain this load in order to prevent oil and electricity from obtaining an impregnable position, and the Committee's summary report on the process aims at indicating the best methods of obtaining the load and the price at which gas is competitive. The report has been circulated to, or is available for, all members of industrial centres. The next subject dealt with in this way was central heating, chosen because it is generally agreed to be a growing load, and is of great importance. The available data on the comparative cost of different fuels for this process were examined and the Committee's conclusions set out in the form of tables giving the price of gas per therm at which it would be equivalent to the alternative systems (electricity, oil, or solid fuel) at various prices. This report, also, has been circulated to the members of the industrial centres. The object aimed at in these reports—namely, the indication of the competitive price of town gas for given processes, is, of course, a difficult one to achieve since the quantity in question cannot be precisely stated, but it is felt, nevertheless, that the reports do provide a sound basis on which the commercial policy of an undertaking may be established.

Other subjects which are receiving similar treatment are bright annealing and the generation of electricity by gas engines. Bright annealing was chosen as being a process which urgently required development, as far as gas furnaces were concerned, and a detailed preliminary report has been prepared summarizing the results of all published work on the subject. This report has been circulated to furnace makers throughout the country with a view to assisting them in developing gas fired bright annealing

* "GAS JOURNAL," Vol. 208, pp. 761–2 and 822–4.

furnaces, and the subject is still under consideration by the Committee. The generation of electricity is a subject in which growing interest is being felt by the Gas Industry as offering an indirect means of attacking the lighting load. In this case I am not yet in a position to indicate the lines which the report is likely to take.

Another function of the Centres Committee is to provide a link between the Gas Undertakings and the furnace makers, or, to put it more comprehensively, the manufacturers of industrial equipment, and I can safely say that the relations between these two complementary halves of the Gas Industry have been very definitely improved since the Centre Scheme began. The makers now feel that their position is better understood and that the Centre Scheme will tend to give some uniformity to the policy of undertakings throughout the country. They feel that the scheme will increase the industrial use of gas and therefore the sale of gas appliances. They also realize that there is now a definite organization which will spread information about their new products throughout the country, and with which they can communicate when any misunderstanding arises between them and the Gas Industry. Manufacturers appreciate that the launching of a new piece of equipment is greatly facilitated by the existence of the Centre Scheme, since by introducing the appliance to each of the 10 Centres and perhaps lending a demonstration model to each of the 10 industrial showrooms, they can make contact with a large part of their market.

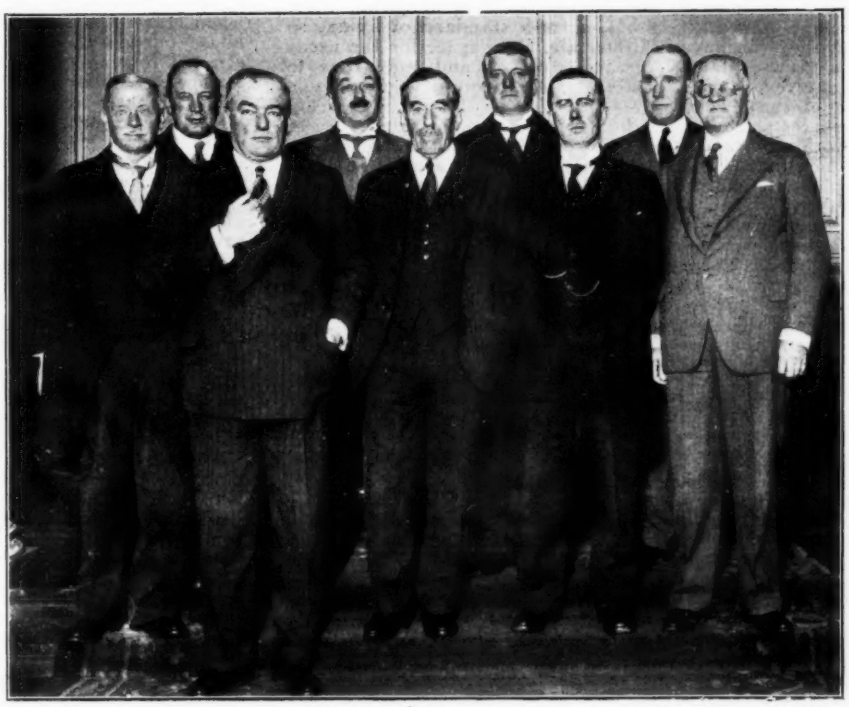
On the technical side the Centres Committee performs the very necessary function of co-ordinating the work of individual Centres acting in co-operation with manufacturers of industrial plant. Before the Centre Scheme was started it sometimes happened that a manufacturer received conflicting advice from different gas undertakings regarding the development of gas consuming equipment; but in future the existence of the Centres Committee should go far to avoid such inconsistencies. In several instances the pooling of information on a given process in the Committee has been of the greatest value in the development of a gas firing technique, for instance in connection with the heating of steam tube ovens. In this case the Committee was able, by speaking as representative of the whole Industry, to settle a dispute with the insurance companies which was threatening to obstruct the development of gas firing for this process. Of the further technical work of the Committee it is not possible to say much save that a large number of problems has been fully and frankly discussed and that in most cases satisfactory conclusions have been reached. The importance of this co-operation with appliance makers in the development of gas consuming plant is now becoming so widely recognized that there is no need to stress the significance of this aspect of the Committee's activities.

In addition to these functions the Committee has dealt with a number of other tasks of which a few may be mentioned. It forms a body able to represent the Industrial side of the Gas Industry in technical matters when dealing with public institutions of various kinds—*e.g.*, Industrial Research Associations and Scientific and Technical Societies. It is also in a position to supply information on industrial processes to members of the Industry who may require this for any special purpose, such as the presentation of Papers to technical societies.

Consideration has lately been given to the question of co-operation with Universities, Colleges, and Schools where gas equipment is, or might be, used in laboratories and workshops. It is generally agreed that the existence of unsatisfactory gas appliances in such institutions is a serious matter for the Gas Industry as a whole, in that the students who will later become potential users of gas consuming equipment will tend to associate gas with the antiquated appliances they have used in the laboratories, and will inevitably be biassed against it. There is no doubt that in the majority of cases the equipment used in educational laboratories is unsatisfactory, and that it often contrasts unfavourably with the electrical equipment which has been presented without obligation. Arrangements have now been made for the Centres to advise their members on the type of appliance which should be installed in such cases, and it is hoped that individual undertakings will do all that lies within their power to ensure that only modern equipment shall be used and that this shall be kept in good working order.

Sub-committees of the Centres Committee have from time to time been formed for such purposes as editing the B.C.G.A.'s technical publications, and advice has been given on the choice of subjects for these publications.

In order to speed up the introduction of new plant to industrial consumers the Centres have in several instances arranged special exhibitions to interest special classes of consumer. For instance, there have been exhibitions of milk bottle sterilizing plant and other equipment of interest to dairies, space heating plant, flame cutting equipment, fish frying ranges, heat treatment furnaces, salt bath furnaces, and high speed steel furnaces. Lately a joint effort by all the Centres has produced the largest industrial gas exhibit we have yet staged. I refer to the British Gas Federation Industrial Gas Exhibit at the Shipping, Engineering, and Machinery Exhibition which has just finished at Olympia. This exhibit represents the co-operative effort not only of all the Centres and their member undertakings, but of 40 different plant manufacturers many of them direct competitors of one another. It says something for the good relations existing between all the parties concerned that we have only had one refusal to co-operate!



Among those present at the luncheon given to delegates by the Convener and Members of the City of Edinburgh Gas Committee: Back row, left to right: Councillor Fergus Harris, Sir W. S Crawford, K.B E., Mr. Ernest Brown, M.P., Councillor Muter, and Mr. James Jamieson. Front row, left to right: Sir Patrick Ford, M.P., Sir David Milne-Watson, LL.D., D.L., Mr. T. M. Cooper, K.C., M.P., Solicitor-General for Scotland, and Sir Francis Goodenough, C.B.E.

THE B.C.G.A. CONFERENCE.

Miss Margaret Abbott, niece of Mr. Munro, of the Edinburgh Gas Department, presents a bouquet to Harriet, Lady Findlay, at the opening of the Home Management Session.

Home Management in The Machine Age

A Discussion in which several prominent speakers took part at the Fifth Business Session on the Tuesday afternoon, which was a Women's Session.

HARRIET, LADY FINDLAY, D.B.E., J.P.

I wonder if everyone here knows the scope and objects of the British Commercial Gas Association. Pleading personal ignorance before it was explained to me and feeling that others may not have complete understanding, may I explain that this is not a profit-making concern, but is really an information bureau organized to make known the modern developments of the uses of gas, and to help gas consumers to get the best possible value for their outlay. It is supported by voluntary subscriptions from gas undertakings all over the country, including corporation gas departments from the large cities and privately operated companies like the Gas Light and Coke Company of London. I think I may safely say that it not only readily gives information and advice to anyone who needs it, but also welcomes suggestions from the public for improvement of the service of gas lighting and heating and all the multifarious uses to which it can be adapted.

The whole country is concerning itself in these days with improving the housing conditions of thousands of families, and this problem is not only one of more bricks and mortar, or of actual accommodation, or so many cubic feet per person. It involves the human problem of giving these people a new start in life, a fresh standard of living, so that they can have healthier air, more space for the needs of a growing family, greater comfort, and more time to themselves by using modern labour-saving devices. People talk of the need for everyone to have leisure to develop resources and interests, but in the routine and drudgery of a working woman's life such leisure is hard to find unless the new houses are constructed and fitted to save the needless labour that old-fashioned conditions created.

In giving these housewives a new home it is essential to see that they get the best out of it by careful planning to save unnecessary drudgery and fatigue.

One means of saving housework is in the heating system. Heat is needed for cooking, for hot water, for warming rooms, for washing and ironing, and for many other purposes, and a great deal depends on the kind of heating that is chosen, and on seeing that the housewife is getting the best return for this serious item in the weekly budget.

Disadvantages of Coal Fire.

There is no doubt that for cheerfulness and companionship the open coal fire is hard to beat, but while we concede that it is nice to sit by, there are grave disadvantages attached. The damage done by coal smoke in this country is estimated at millions of pounds every year. We are apt to blame factory chimneys, but, though they undoubtedly contribute to the evil, the worst offenders are the millions of domestic chimneys. If one has lived or stayed in any foreign city the absence of smuts and the general clearness of the atmosphere always strike one. This is not really due to a better climate, but largely to the fact that artificial heating and cooking is widespread and the open coal fire the exception. I am often amazed when driving outside Edinburgh, or when, on an exceptional moment of activity, I find myself on the top of Arthur's Seat, to see the pall of smoke that hangs over the city, so well named "Auld Reekie." It is not hard to realize what a menace to health, especially to the health of children, such a volume of coal smoke means.

Smoke clouds shut off a high proportion of the health-giving rays of the sun and vitiate the air with particles of soot. Breathing such air with the resultant lack of sunlight is responsible for many of the illnesses of the children of our towns. We know that smoke and soot eat into stonework and corrode cast iron fittings, so it is not surprising that they have a damaging effect on human lungs.

This menace of a smoke-laden atmosphere is one reason for using gas and electricity wherever economically possible in our new housing schemes.

Both the gas and electrical industries have been given special trading facilities by the Government. In return for these privileges they have a heavy responsibility towards their customers.

Their duty is not finished when gas or electricity is installed, or when a household appliance has been sold. To begin with, experts must study the conditions under which it is to be used to see that it is placed in the best possible position for convenience and safety to all members of the household. For instance, when a cooker is put in, it should be placed in a good light, away from draughts, and near the sink, considering all the details which mean so much in saving time and fatigue to a busy wife and mother.

Wonderful Inventions.

All sorts of wonderful inventions are now available, such as the modern cooker with automatic control which makes it possible to cook a complete meal without attention. There are switch lighting fires, and automatic water heaters, giving hot water at every tap, which have been installed in some of the latest blocks of workers' flats, and if one considers the condition of even the palaces of old, when Mary, Queen of Scots, had to have her special bath house outside the palace, and Queen Elizabeth was restricted to one bath a month, we can realize how much science has advanced in the amenity of daily life.

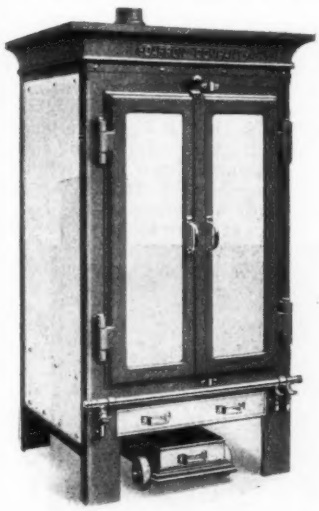
But all these appliances must be thoroughly understood, and it is the duty of the Gas Industry to make sure that every consumer knows how to make the best use of her opportunities at the lowest possible cost, and free and willing advice and help must be made available.

This is especially necessary for the housewife of smaller means. She cannot afford devices that are only going to save labour; the weekly budget is what has to be considered, and no working woman is ever prepared to save herself at the expense of an all too inelastic income. Take the instance of the woman who leaves an overcrowded neighbourhood of one or two roomed houses to live in new conditions where modern cookers and appliances are provided. She may never have used such things before and it is the duty of the Industry to make sure that she is made conversant with the most economical way of cooking, and how to prepare the most nourishing meals at the least expense.

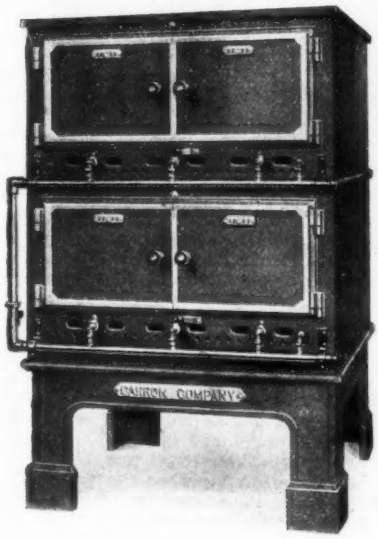
Much valuable advice could be provided if more women domestic experts were employed to help in these problems, and I should like to see women with a training in social work, taking up the profession of house factors, who would combine collecting the rents with help in household problems, and to see that those who move into the new houses get the best value in every way from their change of surroundings.

The Gas Industry's customers are mainly women and it is essential that the women's viewpoint should be studied just as it is studied and catered for in the big stores, but it is not only in the selling of modern labour-saving devices

No. 724 Gas-heated Boiling Pan.



No. 367 Gas Roasting Oven.



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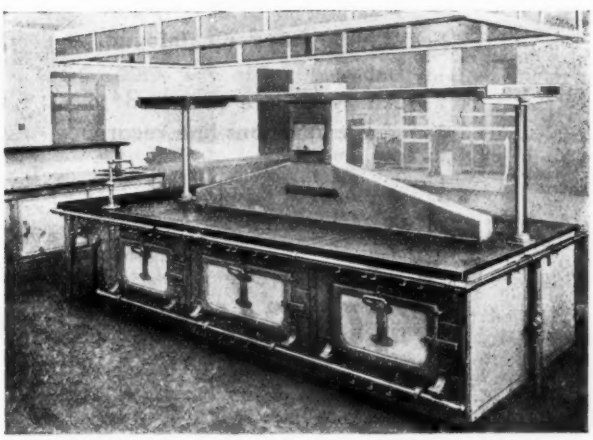

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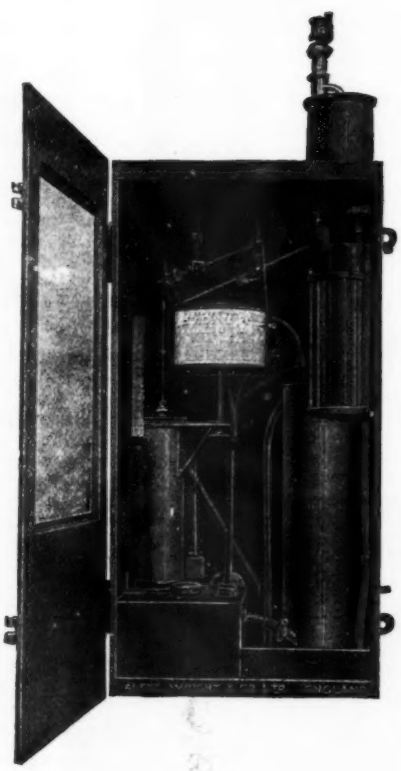

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that attention is required. To get the full benefit the "follow up" is needed and practical and sympathetic help in using the scientific developments of this mechanized age is essential if the world is to benefit by it. The whole question of making use of modern devices for household purposes boils itself down really to the economic question. To be of real value and to be taken fullest advantage of modern artificial means of heating, lighting, and cooking must be brought within the reach of consumers. It is no good recommending people to install it unless it is to help the domestic budget, or at any rate not to be an extra burden; it has to be so contrived that it is as far as possible danger-proof to the little meddlesome fingers that like to poke into everything. It must be thoroughly understood by those who are going to use it, so as to save not only the legs of the housewife but also the purse; it must add to efficiency and produce economic advantages as well as amenity and comfort. It is no good when advocating the uses of gas to plead smoke abatement or extra leisure to those who can't afford to avail themselves of it, nor understand how to get the most out of it, and these Conferences will only serve a useful purpose if the Gas Industry is made an integral part of the housing policy of the country, which is to raise the standard of human health and the happiness of the community.

Miss PERSIS L. WINGFIELD.

The older I get the more sure I am that one can judge the real value of a man, woman, or association not so much by capacity to do well what he sets out to do, but by the extraneous benefits he confers on the community and by the altruistic spirit which actuates him. The really valuable man is the one who, when asked to run one mile, runs it well but is quite ready to run two.

I have been wondering what benefits of this nature gas undertakings may confer on us in addition to the benefits immediately relative to their job, and what kind of influence the women in the Industry may exert. I can't help being particularly interested in the women in view of the work which many of the old students of my own College are doing up and down the country. One saw something too of the influence and status of cultivated women in the Industry of this country during the deliberations of the recent International Congress in Scientific Management. One realized the wisdom as well as the generosity of the Gas Light and Coke Company in the charming hospitality which was extended.

"Official Wives."

I remember a principal of a woman's college who said that what she wanted was an official wife in term time, and an unofficial husband in the vacation. Well, I commend those gas undertakings who have at any rate obtained official wives who can be their hostesses, to make contact with important women's societies, speak and write for them, and appear to be at leisure to listen, and I especially congratulate the Edinburgh Corporation Gas Department in the termination of its bachelorhood, though I would remind it that, in the matter of official wives, polygamy is praiseworthy and remunerative in the long run.

Let us seek in official wives the very qualities for which we would seek in unofficial wives, good looks, social charm, love of home, loyalty, and efficiency. And though I do not say you cannot be efficient without a training, I do say that you will be much more efficient, at any rate during the first decade of your career, if you are trained. I was given an article to read the other day on a demonstrator's qualifications. It stated that generally speaking a first-class diploma in cookery is needed, and a working knowledge of gas appliances. It seems to me that she needs far more than this if she is to cover the bare outline of her job. She must be skilled in *all* the crafts of home life, she must have knowledge of household and institutional organization of various types and of kitchen and home planning if she is to have sympathetic insight into the problems of her customers, and in addition she must have training and practice in presenting her knowledge in forms appropriate to the mental variations of her customers. How important such a training is even to the so-called "born teacher" can perhaps only be appreciated by those who are privileged to watch and guide the development of young instructors and demonstrators. These are the people who have the opportunity of influencing the homes of the nation and public opinion itself. They are there ostensibly to educate consumers in the best and most economical use of appliances, but how can they do this effectively unless they can visualize the needs and difficulties of the housewife and of the household as a whole, have knowledge to discuss problems and wisdom to advise with advice which is not bounded by the concerns of their own particular undertaking? How one mistrusts the salesman or demonstrator who is limited to the particular commodity he is interested in! And it is in the work and influence of such women that I see one of the extraneous benefits which undertakings may confer.

Welfare Workers.

We who are in colleges and schools are teaching as hard as we can go, but everyone knows that if school teaching is not supported by home teaching it is lost. Prof. Cathcart, speaking at the British Association about education in diet the other day, pointed out that without this support lectures are no good, leaflets are no good. Practical demonstrations are the thing, and demonstrations carried out with the utensils which women have to use, and, I would add, demonstrations carried out in their own homes. It is the demonstrator who has the entrée. In the hands of the demonstrator to a great extent lies the education of woman and through the woman the health and wellbeing of the nation. It is she who can supplement not only craft teaching but can direct women's thought towards the solution of such problems as of juxtaposition in a kitchen, towards a sensible economy in motion, towards an increase of output value combined with a saving of time, towards all those problems which have been faced in factories but never in homes, so that women through their own unimaginativeness and conservatism have rested content with conditions which would be condemned in any factory. If the demonstrator is worth her salt her customers will be ready to buy any appliance for the value of her advice. Hers is a high calling and the more faithfully she is a welfare worker in the true sense of the word the more effectively will she serve her undertaking. She is the teacher in the home, as effective an enemy of ignorance and misuse as any school instructor.

Rational Planning.

Talking of juxtaposition and work circuits brings me to another benefit which I would like to see resulting from the influence of gas undertakings. You want to supply appliances which anyone may use in conjunction with apparatus or utensils they may already possess and adaptable to surroundings which already exist. Granted. Nevertheless, utensils which, for instance, occupy the maximum oven capacity are worth thinking about and recommending to customers who can afford to obtain full value in the working of their apparatus. And similarly, is it not worth while considering the ideal setting for your appliances? When it comes to new housing, I beg of you to exert your influence on municipal authorities and on builders and insist on rational planning. I am told that in Stockholm they have a municipal architect planning kitchens alone. We have equally good architects but we do not seem to use them. There is a national household research committee of the National Council of Women which has done valuable work in making practical calculations in order that arrangements of work circuits in kitchens may be based upon actual data instead of upon vague opinion. Have any of you consulted this committee? Have you considered the kitchen as the woman's workshop? It is undertakings such as yours, and especially corporation undertakings who might, so it seems to me, bring influence to bear to ensure some kind of plan in the new houses built without architects, but passed by local authorities, houses in which you are expected to place your apparatus.

I can still go into new houses and find that the kitchen is just that odd corner which is left over when all the rest of the house has been planned and the gas cooker is placed in such a position that no light enters the oven and the flame is blown out every time the door is opened, just because the gas pipe happens to be there.

This question of rational planning is being terribly neglected just when we have an opportunity with new housing of righting old mistakes. Even in these exhibition bungalows which fascinate us all (though we do sometimes wonder where the tenants would keep their hats and coats) the kitchen often represents a jig-saw puzzle, with everything fitted in cleverly but apparently without any thought of a rational circuit of work at all.

I have called these benefits you may confer "extraneous," but are they extraneous after all? How can your appliances give their best value handicapped by bad management and unsuitable surroundings? No, again it is a matter of casting your bread upon the waters for you shall find it after many days. And, perhaps, not so many days after all.

Mrs. D. DARCY-BRADDELL

I have been asked to speak to you on kitchens, and I have chosen as a title for the subject of my talk "Commonsense in the Kitchen" because I feel so strongly that while modern scientific research is responsible for all kinds of benefits, these benefits can only be put to their true value by the use of commonsense; that is to say by common, everyday intelligence being brought to bear.

The kitchen to-day is constantly being referred to in many quarters as the "workshop of the house."

I think this is only a half-truth, for the kitchen is a great deal more than a workshop. It is often the most continuously occupied room. That is a fact which seems constantly to be disregarded by the disciples of the efficiency-at-all-costs school. They cannot really want to make the daily work of the housewife comparable with that of the factory hand, yet they would appear at times to have you look upon the cook in her kitchen as being on all fours with the research chemist in his laboratory, or the factory hand in a perfectly appointed workshop where efficiency is the one and only object in view.

In my opinion this is not an entirely right attitude to take. The woman in her kitchen is just an individual doing an interesting, skilled—but not too skilled—job in surroundings which are part, and must perforce remain part, of a domestic dwelling.

In these circumstances it is important for her to feel that her kitchen, her workshop, is also part of her home. Therefore those things which we naturally consider of importance in making a room liveable and attractive apply every bit as much to the kitchen as to any other room in the house.

I am not for one moment questioning the importance of the correct planning for ordered kitchen routine; please do not misunderstand me. That is of major importance and should *never* be forgotten. *But* there may be occasions when discretion must be used and when, for the sake of the æsthetics of the room, the correct working sequence must be broken.

Now what, after all, is the very first thing that makes a room liveable? It is not, as so many people are apt to think, a question of giving it pleasant colour. It is the proportion of a room that counts. For real comfort, we have the comfort of the eye, as much as the comfort of the body, to consider. Urgent as it is to try and reduce a woman's perambulations from 5 to about 2½ miles a day (the figures arrived at by research work on fatigue, done with the aid of a pedometer), it is not the one and only consideration.

Proper Balance.

The proper balance between solid and void, to use the jargon of my architect friends, that is to say, the relation of masses to space, is, I think, of much greater importance than is usually conceded, and I contend that the shape of the room ought to be much more carefully considered than it usually is. This question of proportion rests, of course, in the first instance with the architect or builder of the house, just as does the essential planning in order to make the correct sequence of work possible. (I don't believe, by the way, that I have actually mentioned the order of sequence usually accepted. It is, as you probably already know, delivery and collection of food, preparation of raw food, cooking, serving, clearing, washing-up, and putting away—*i.e.*, planning from the back door to larder, refrigerator, preparation table, cooker, service to dining room, draining board, sink, china cupboards. One other essential rule that the builder should remember is that the light—if there is only one source of light—should come in over the cook's *left* shoulder.)

No amount of commonsense can possibly alter the source of light if the window does come in the wrong place, *but* commonsense can be very helpful in making a badly proportioned room look less so.

To take a case in point: it may be advantageous to put the store cupboard—rather a bulky piece of equipment—*out* of its right sequence in order to give "balance" and a much greater sense of comfort to the room.

This question of proportion leads one naturally on to the question of size; and here again the rigid adherence to an arbitrary dictum that the room *must* be small seems to me very ill-considered. Probably the vast, inconvenient, and completely unplanned basements of most town houses, and the great, spacious, rambling kitchen quarters of country homes, gave birth to a natural reaction for the small compact kitchen. One knows that domestic labour was plentiful when these offices were built, and probably their size is, in many cases, none too big for the activities they had to house, but their complete lack of planning is still very much to be condemned; they must have meant not only wasted labour, but unnecessarily hard work and fatigue.

The lack of domestic service to-day has happily had some good effects. For without doubt it has contributed largely to the interest taken in the planning of kitchens and domestic offices generally; and this interest of the educated lay-public as well as of architects has very much helped towards stimulating builders to the better planning of kitchens in the small speculative built house.

But the usual space allotted to that kitchen is invariably much too mean. In many cases a revolving pivot installed in the middle of the room could enable the cook to remain stationary and so eliminate all steps. Many of these tiny kitchens look quite admirable on paper, and indeed in reality, when seen with all their cupboards shut, their pots and pans on their shelves (usually terribly high up and *so* bad for a woman to have to reach), their draining boards empty, their wash boilers neatly underneath some other piece of equipment, and so on—in fact, when the jigsaw puzzle is complete.

But when the mid-day meal for the family is in preparation by the normal housewife or cook, *what* a different picture! Unless she is a woman of amazing method, the room is painfully like the jigsaw half done, with its pieces in confused piles. No "casual" spaces have been allowed, one open cupboard door abuts on to another, the patent flap table (so admirable as an *extra* table) is, of course, open, since it is probably the only table-top, except the draining board, available and sticks right out into the only unencumbered area of the room. How the woman must long for the now much-abused scullery, where she can dump the many things not in actual use at the moment, and which she has not yet been able to wash up, sort out, and put away.

The Dining Recess.

One other point concerning planning. When the kitchen has to be used for maids' meals the planning must, *ipso facto*, be somewhat altered. The dining recess, the little space set apart is, of course, ideal, but unless the house is new and can be planned to accommodate this, it is often difficult to manage, particularly if the kitchen has only one window, which is too frequently the case.

Since cooker and sink *must* be well lit, this necessitates the placing of the dining recess away from the window, which is a pity. In any case a second table should be provided when maids use the kitchen as a sitting room. Whether for meals or for their letter-writing, needlework, &c., it is equally undesirable that they should use the food preparation table.

These are the times, then, when the patent flap let-down table comes into its own.

Scarcely anyone can afford to buy all the pieces of equipment they want and consequently a very great deal of forethought is needed in making the original choice. I don't think there are *any* rules which can be generally laid down. It is self-evident that each piece of equipment has to be considered from various angles. It must perform its task as perfectly, as economically, and with need of as little attention as is possible. Manufacturers have made great strides in the efficiency of their products and are now turning their attention to their appearance so that housewives have a very large choice open to them. This makes their task both easier *and* more difficult. Nearly all modern innovations in housekeeping are highly desirable and it is very difficult to decide what can be considered an essential and what not.

Take refrigerators as a case in point. A refrigerator is now no longer regarded as a luxury but as a necessity. Actually, for a small household, it is, with a well-situated larder and a daily delivery of all raw foods, neither the one nor the other. It is a great convenience; it helps to maintain a high grade of cooking standards and it is an additional safeguard in preserving food. It can be blamed for causing the builder to think that no larder is necessary, while, on the other hand, it is a boon and can certainly be described as a necessity in flats where the planning makes larder accommodation impossible. In design, the refrigerator may be regarded as having set a high standard. Its expressive shape, simple lines, and excellent finish soon show up equipment of poorer quality and set a shining example for others to work to.

I started my remarks on equipment with refrigerators simply because they were a good example for the exercise of commonsense.

I do not propose to go into the question of cookers in this Paper at any length. It is enough for me to say that most have reached a very high standard of efficiency for the particular form of fuel they consume.

This is a Gas Conference, and the percentage of gas cookers used throughout the kingdom bears witness that they are far the most popular form of cooker. They deserve to keep their popularity, for they maintain a high level and their manufacturers show constant enterprise in trying out improvements both in design and performance.

The trend of modern cookers generally shows that fewer and fewer people combine their cooking with the means

of heating their water. In flats both domestic supply and radiators are done at a main source, and in houses of any size independent boilers are essential, and these are usually housed elsewhere.

In medium houses it is quite convenient to place a small independent boiler in the kitchen, where it not only does its main job of heating the water, but also warms the room when its door is opened.

Both gas and electric water-heaters are well designed and efficient, and it is purely a question of the cost of the fuel that determines whether or not it is economical to install one of these instruments in place of a solid fuel boiler or grate.

But it must be remembered in their favour that, whatever the comparative cost of running may be, they make no dirt, require no attention, and are turned on and off at will at any moment of the day or night.

From cookers and water heaters one turns naturally to the next essential of the kitchen—sinks. These are often much too small. Even if the supply of hot water is limited, the sink should never be skimped in size, but a sink bowl should be used inside if economy of hot water is necessary. Fire-clay sinks are made in many sizes and depths and are comparatively very cheap. A small extra initial outlay in fitting well thought out capacious draining boards will never be regretted. Like the sink itself, they should be generous and comfortable.

The metal sinks now increasing in number on the market have many valuable assets, perhaps the greatest being the fact that sink and draining-board are one homogeneous unit, with no possible cracks through which water can soak. The least attractive thing about them for the ordinary household is their price; however, this already shows signs of decreasing. There is still scope for a greater elasticity in the size and capacity of the actual sink bowl, but here, too, sensible developments are taking place.

Taps are often not considered nearly carefully enough. It should always be remembered that vessels of all shapes and sizes have to be filled from the kitchen taps and consequently their position should be studied with forethought. A mixing-tap with a swivelled nozzle is really the best of all where a good fixing can be obtained. Where the water is not directly off the main, it should not be used for drinking, and another tap for this especial purpose should be provided.

It would be tedious to discuss every piece of equipment needed in the kitchen, and I will only conclude by saying that I strongly advocate the introduction of open table tops wherever it is possible. The cooking-table and draining boards should not be the only available space on which to place things (and in many modern kitchens they are all that is allowed). Incidentally, if all these table-tops (that of the cooker included) are lined up on the same level, they are not only much more convenient, but help the æsthetic appearance of the room enormously.

Finally, I think that most women do possess a modicum of good sound commonsense, which they should never be chary of imparting to the so-called experts when they are furnishing their kitchen. Their co-operation is urgently needed, and the more they voice their needs, the sooner they will be supplied.

Mr. T. P. RIDLEY.

Home Service plays quite a big part in the activities of the Gas Industry. During the past decade these activities have grown in scope and usefulness, having achieved the important objects of creating goodwill between undertakings and the public, and of forming a definite link-up with the sales of gas and appliances.

The appreciation of the Gas Industry's desire to serve the home makers of this country by this advisory service, which is being carried on both in the home and by public demonstration, is a gratifying proof of its need.

Being more familiar with the Home Service arrangements at Newcastle I give some of the general activities in that area.

Demonstrations dealing with all classes of cookery from high-class to plain are given to the public practically every week in the year in some part or parts of the area—often in two or three different places at the same time. Home laundry demonstrations are included from time to time, and in the warmer days "cold" cookery, incorporating gas refrigeration, is demonstrated. These talks and demonstrations are proving more popular to-day than they were, say, five years ago. It has been found that it is not sufficient simply to invite consumers to attend such demonstrations in the various showrooms; the demonstrations must be taken within easier access of many of the customers' homes. Therefore, halls are hired in various parts of the area for this purpose. In instances where suitable halls are not available the travelling showroom fulfils the need, and extends the demonstrations to villages and hamlets in the outlying parts of the area.

An example of a mere man's appreciation of these demonstrations is shown by a request received for an extension of them in his district on the ground that he had not received such delightful meals since he was married as those provided by his wife during the period of the demonstration.

These demonstrations are carried into the big retail stores, and, by means of displays, educational features of model kitchens and other rooms planned for work-saving and convenience are brought to the notice of the public. Contact is kept with women's associations such as women's institutes, church associations, women's guilds, women's political associations, &c., and special demonstrations and talks are set apart for their members.

To assist the busy housewife and hostess in her additional duties at Christmas time a special service of lectures and demonstrations is given in "Christmas Fare" cookery, which includes new and attractive dishes and planning and catering for entertaining during the festive season. The younger generation is catered for by demonstrations to senior school girls and the training of Girl Guides for their Cookery Badges.

All domestic science teachers at schools have been provided with a copy of the book "The Uses of Gas in the Home," which forms a basis of educational talks.

For Business Girls.

For business girls working in offices and other establishments, who have few opportunities of fitting themselves for later home life, special evening courses have been instituted in the autumn and winter during the past few years. Groups of 200 to 400 of these homemakers-of-to-morrow are dealt with in various centres. The popularity of the courses has been such that at times large batches of names have had to be held over until a further course was available. A printed souvenir of the whole course of instruction together with helpful hints is presented to each student at the end of the session.

The Commissioner for the Special Areas for England and Wales stated in his first report:

> "I have had under consideration the question of nutrition in the Special Areas and I feel that there is room for improvement in regard to the methods of purchase and preparation of food in working-class homes. There is need for direction and instruction."

This is work which we have been carrying out in our district—which is one of the Special Areas—long before the appointment of the Commissioner. Under the auspices of the Health Department of Local Authorities, talks and demonstrations are given weekly at welfare centres, mainly to the poorer classes, on "Wise Spending, Planning of Meals, and Economy in Cooking." These demonstrations have been greatly appreciated by medical officers, health visitors, and the poor alike. One health visitor has remarked "You are doing in a practical way what we have been telling these people verbally for years that they ought to do." Similar demonstrations dealing with "Nourishing Meals for a Few Coppers" are given at Women's Sections of the Unemployment Centres.

The Commissioner's Report is a highly satisfactory confirmation that a good service is being rendered.

To classes of St. John's Ambulance Association, courses of instruction in "Invalid Cookery" are given, and co-operation with medical officers takes place in "Health Weeks" by staging a series of "Health Cookery" demonstrations, incorporating a lantern film of "A Balanced Diet." Modern educational features of dietetics and food values are stressed in these and other demonstrations.

Qualified lady cookery advisers are at the service of consumers daily for personal consultation, and advisory service is given in the homes of both ordinary and prepayment consumers in all cases of newly fixed cooking appliances. This service includes home instruction in cooking to "newly weds."

One of the most important features in kitchen planning is the saving of time and labour. Proper planning eliminates useless steps to and fro. All equipment must be carefully and correctly placed, and order, convenience, and economy must rule. To this end a Kitchen Planning Service has been commenced, whereby complete designs in plan-form, and helpful ideas, are given on the modernizing of kitchens to meet individual needs. No charge is made to consumers for this Kitchen Planning Service.

A lady has been appointed recently to call upon prepayment consumers only, with a view to ensuring that they obtain the fullest and most economical use of their gas cookers and other gas equipment, and practical instruction and advice is given in these consumers' homes. This service is being extended.

Home Service activities are not confined to the kitchen

Controlled Heat *is* Economical Heat

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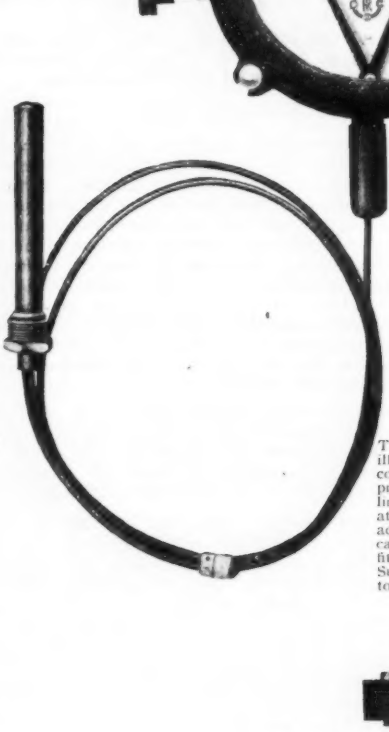

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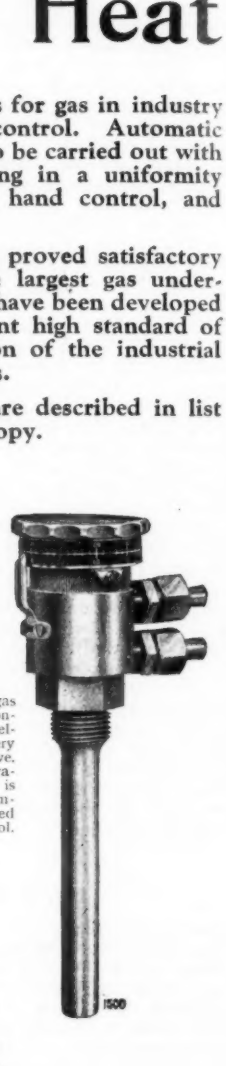

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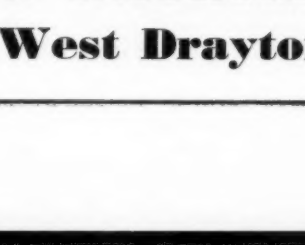

The Thermogas Valve is supplied in sizes up to 2½" and is suitable for use with any of the pilot valve regulators shown above. Minimum flame adjustment is provided to prevent burners striking back.

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but extended to other rooms in the home. Here, again, the aim is to set a higher standard of comfort and convenience. Gas fires in beautiful coloured finishes and surrounds have entirely altered the old ideas of how a fireplace should appear, and many calls have been made upon this service to draw up schemes which will not only reduce work, but will bring in design, colour, and harmony to make the surroundings cheerful and artistic.

Another feature of Home Service is carried out in co-operation with a leading firm of furnishers by fitting out, complete with labour-saving gas equipment, a series of model homes in various parts of the area. The art of home furnishing and decoration is always appealing, and thousands of home lovers each year inspect these exhibition homes where they see the latest features in comfort and convenience and gain new ideas which help to solve their own home problems.

In order to ensure that all gas appliances, whether privately owned or hired from the Company, are maintained at their highest efficiency, attendants visit consumers' homes at least once a year to inspect, adjust, and overhaul the whole gas equipment, without charge.

Further, in order that the work and dirt involved in the use of solid fuel in the home may be avoided, and thereby a clearer and purer atmosphere may prevail, a new tariff for gas has just been introduced under which the householder can entirely eliminate solid fuel by substituting gas at approximately the same cost.

More and more women are realizing that to-day home-making is an accomplishment of which to be proud, and we are happy in the knowledge that the services we are rendering are assisting to that end.

Mrs. EILEEN MURPHY

A number of Edinburgh citizens are our guests at the Conference to-day. It is only right and proper that they should be here, because the Edinburgh Gas-Works belongs to the citizens, and they should take an interest in their own property. It is their own, just as the lovely gardens and parks of Edinburgh are their own.

Besides, Scottish people have a patriotic interest in the Gas Industry. In fact, the whole British Gas Industry has a strong Scottish accent. The first man to use gas lighting in this country was a Scotsman, called William Murdoch. To-day, the Governor of the biggest Gas Company in the world is a Scotsman—Sir David Milne-Watson. Lord Macmillan, the first President of the British Gas Federation, is a Scotsman too. And the President of our National Gas Association is an Edinburgh man—Councillor Muter, who presides to-day.

This year the leaders of the Gas Industry have come to Edinburgh from all parts of the country to discuss ways and means of making gas more useful to everyone. The British Gas Industry has ten million customers, which means that nearly every family in our towns is using gas for some purpose or other. The main problem to-day is to make sure that every user of gas is perfectly satisfied and gets the best results at the cheapest cost.

Now the great majority of the customers of the Gas Industry are women. The Gas Industry could not exist unless it gave good value to its women customers. It cannot extend unless it continually improves its service to women.

Nearly two-thirds of these women buy their gas through penny-in-the-slot meters. Most of them have to do the whole work of the home single-handed and on a rigidly restricted income. To-day we hear proposals for a 45-hour working week in factories, but most women in the home have far longer working hours. It has been calculated that the average working week of a section of Scottish housewives was about 60 hours, and those 60 hours did not include any time for the care of children. So it is easy to understand that most women would like to have all sorts of new labour-saving machines in their homes. The question is, can they afford to use these new appliances? Unless they can be shown the cheapest and most practical ways of using them, they have no choice but to go on working in the same old way.

The fact is that as far as housekeeping is concerned, we have reached a new stage of development. In the past, the knowledge of good housekeeping was transmitted from mother to daughter. But nowadays new appliances like gas cookers, water heaters, and washing machines have changed the whole picture. They are becoming available in every home, as Mr. MacRae, the City Architect of Edinburgh, has shown. They are simple to use, but if they are to be used to the best effect, housewives must be shown the *cheapest* ways of using them.

This means that trained women must be engaged by the Gas Industry to help housewives in their individual problems. And that is what we are doing to-day. Mr. Ridley has described the work of his women's staff at Newcastle, and the way in which they demonstrate the cooking of cheap and nourishing meals at unemployment centres. I believe this is work which is urgently needed.

Demonstrations of this kind are all the more necessary as new methods of cooking become available to all—for instance, to many of the housewives who are being moved from defective or insanitary dwellings into new houses.

A woman who finds herself for the first time in possession of a cooker with automatic control of the oven may think that it is too expensive to use. Yet a domestic science expert, speaking recently on the cooking of nourishing meals at the minimum cost, recommended an automatically-controlled oven as the cheapest way of cooking a complete dinner. The speaker added that the housewife must be *taught* how to use the oven to the full, otherwise money would be wasted instead of being saved.

I may say that in some of the biggest housing estates the gas undertakings concerned have staged special demonstrations of cheap cookery for the new tenants who have been brought from overcrowded districts to live in new and better conditions.

Sympathetic Contact.

Individual, sympathetic contact is necessary too. In some gas departments, the home consultant is available at stated hours to give advice and help. In others, the members of the women's staff visit every woman customer in her own home at regular and frequent intervals. I may mention in particular the case of one gas department, in a hard-hit industrial town, where seven women inspectors are employed. Each woman inspector has an intensive training in cookery and in the management and adjustment of gas appliances. Every gas user in this district is visited at least once in every eight weeks to see whether she needs any help or advice. At first the women inspectors were regarded with some suspicion, as it was felt that they were taking jobs away from men. Actually, they were an addition to the staff and intended merely to give better service to customers; and their help was so much appreciated that the use of gas steadily grew, and more men, instead of less, had to be employed. These women have become a popular feature of the town's life. Sometimes when they knock at a door they hear the children call out: "Mother, the Gas Nurse is here."

To-day the Gas Industry offers a good career to the right type of girl. In the last year a number of undertakings have appointed home consultants. In most cases these girls are required to have good qualifications in domestic science. Generally a First-Class Diploma in Cookery, entitling the holder to give public demonstrations, is considered necessary. Many of these consultants are actually qualified teachers of domestic science, and have taught in secondary or technical schools before taking a job in the Gas Industry.

Of course, it is possible to lay too much stress on academic qualifications. From our point of view, it is just as important that the home consultant should take a real interest in other people's household problems, and be able to make friends with every type of woman. Anyone who cherished an exaggerated idea of her own importance would be an abject failure at this job. The real qualification is a talent for sympathy—a knack of making people unfold their troubles and open their hearts.

In the old days, too many people thought of the Gas Industry as the home of red tape. Nowadays the Industry is being "humanized" and brought into closer touch with the problems of its customers. We are taking the red tape off the Gas Industry and putting silk stockings on it.

The girl who enters the Gas Industry is taking up a job that can only be done by women. She is not competing with men on their own ground; she is really a pioneer, a product of a new set of social conditions. And in all her work she has the satisfaction of knowing she is helping other women to get more interest and pleasure out of life.

APPENDIX I.

Automatic Oven Control as an Aid to Inexpensive Cooking.

At the Scientific Management Congress held in London during June, 1935, Mrs. E. J. van Waveren-Resink (Holland) delivered an important Paper on "*Food-planning in the Home to Ensure Satisfactory Nutrition with a Minimum Expenditure of Time, Money, and Labour.*"

According to the speaker, efficiency and economy in cooking are governed by the following factors:

(1) The retaining of maximum food value.
(2) The reduction of time and work.
(3) The saving of fuel (money).

After prolonged experiments, the author came to the conclusion that the most efficient method was "to cook all dishes for a whole dinner, at one and the same time, in a temperature-controlled oven, with high and low heat regions. . . . The fuel used for my experiments was gas, the gas consumption being accurately metered for every test."

After describing the operation of the automatically-regu-

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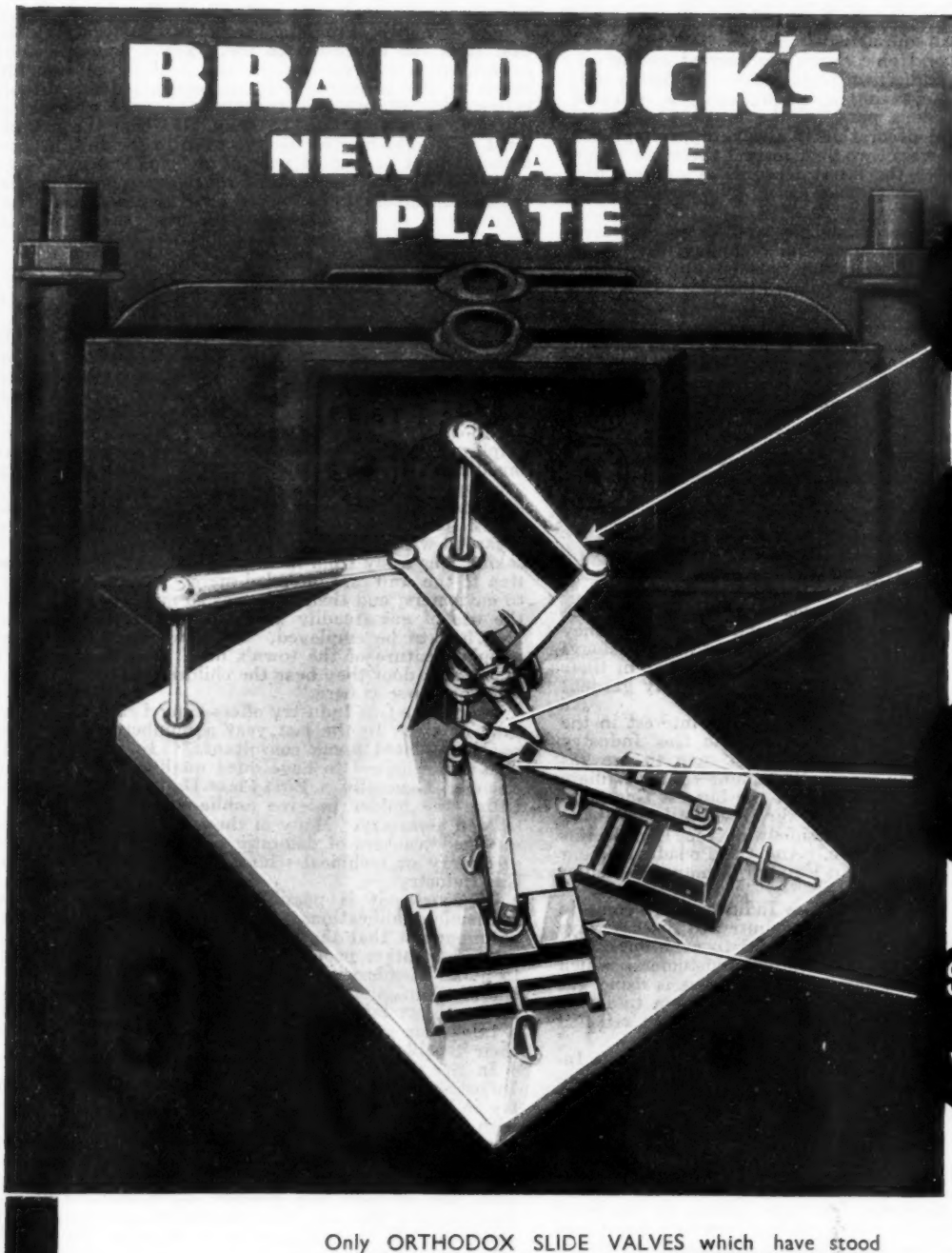

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lated oven, as used in England, she adds significantly: "The possession of such an oven does not mean, however, that its wonderful service features in connection with the meal-preparation problem are known to the owner; that she profits from the labour, time, and money saving that efficient use of the oven has in store. As a rule, the oven is only used for roasting and baking, all other cooking being done on the range burners. It is not realized how much heat, labour, and time are wasted if the oven is not used to its fullest extent."

The author sums up the advantages of automatic control in these words:

"The automatic oven, with its two distinct heat zones, is a time and labour saver in that the whole dinner can be cooked in it without any attention. The food can be kept warm in it during any length of time at the lowest cost. It is a time and labour saver in that it reduces dish-washing, as utensils used in the oven do not scorch or stick; hence they can be cleaned with the least effort. Foods can be cooked in fireproof casseroles and served in these, and this lessens dish-washing.

"The automatic oven is a money saver in that no more fuel is consumed than is actually needed for cooking a whole dinner; meals can be planned ahead and we can arrange for one long cooking in a fully loaded oven one day and a reheating with a short cooking the second day, when only a small amount of gas is required.

"Last, but not least, the automatic oven deserves to be recommended because it brings cooking success within the reach of any beginner going in for cooking, and because it ensures the retaining of maximum food value, as foods in the oven are cooked with very little or no water in tightly closed utensils."

APPENDIX II.

Maintenance Service by Women.

Towards the end of the year 1921 a system of Maintenance Service was put into operation at Neath, the service being exceptional in that the staff employed consisted of women specially trained for the work.

Seven Lady Inspectors are now employed, each of whom visits, on an average, twenty-seven houses per day. Each woman carries a small case containing screw-driver, pincers, and a supply of mantles. Detailed records are kept of every visit. This entails an average period of about eight weeks between each inspection. Thus the consumer survey is always up to date, and the manager has a detailed and accurate basis on which to formulate his policy.

Training of Inspectors.

Each Inspector receives the following instructional courses before commencing her duties:

(i) Three months in fitting and cooker repairing shops, with intensive training in the repairing, regulating, and adjusting of gas cookers, gas fires, burners, &c.
(ii) Specialized training with the Chief Maintenance Inspector for three months.

Attendance for two years at Winter Courses of Cookery Classes is also required for the purpose of enabling the Inspectors to be of additional service to housewives in the matter of cooking.

Duties of Inspectors.

The duties of Inspectors can be summarized as follows:

(i) Regulation of lights, adjustment and regulation of cookers, gas fires, water heaters, irons, &c.
(ii) Special complaints of leakages or defects which require the services of a gas fitter are reported to the office on the morning following the visit of inspection and receive immediate attention.
(iii) Inspectors are also instructed to report any apparatus which appears to be defective or out of date, and these reports are followed up by the District Superintendent.

Check.

Check is kept on these Inspectors by special "follow-ups" made by the Superintendent and by letters from the office enquiring as to the satisfaction of the services to the consumers. There is also an internal check on the material taken by them from stores.

Cost.

No charge is made for this maintenance service, the consumer paying only for material used and for goods purchased. The cost of this service to the Department, after giving credit for profit on sales made by the Inspectors, works out at 0·41d. per 1,000 cu.ft. of gas sold.

The confidence which has been built up between the consumer and these Lady Maintenance Inspectors is such that recommendations made by them receive the most careful consideration from housewives.

The number of consumers in Neath in 1921 was 5,201. To-day, though the district has been one of the hardest hit by the industrial blizzard, the number has increased to 9,041. The price of gas per 1,000 cu.ft. has decreased since 1921 from 6s. 6d. to 3s. 9d. In 1930 the number of consumers using the meter rebate to buy appliances was 98; to-day the figure stands at 2,100.

Gas Undertakings' Results

(*Continued from p.* 115.)

Australian Gas Light Company.

The Directors of the Australian Gas Light Company report that the net profits for the past year, including the balance brought forward (£86,950), amount to £333,974, less dividend at the rate of 3% paid on Feb. 15, 1935, £123,300, leaving a balance at the credit of the profit and loss account of £210,674. The Directors recommend the payment of a dividend for the past half-year at the rate of 3% on the "A" and "B" shares, which will absorb £123,300, leaving a balance to be carried forward of £87,374. At June 30 last an amount of £19,445 stood to the credit of the Fidelity Guarantee Fund. This fund is not shown in the balance-sheet.

Chesterfield.

The annual report of the Engineer and Manager, Mr. H. Davies, on the Undertaking of the Borough of Chesterfield for the year ended March 31, 1935, states that a new agreement for increased supplies of coke oven gas has been entered into and a 12-in. diameter steel main was laid to replace one of 6-in. diameter for a distance of 945 yards from the entrance to the coke oven plant to carry the increased supplies, which are being given through their old boosters and meter. The sales of gas have increased by nearly 60 million cu.ft., practically the whole of which has been taken for industrial purposes and central heating. The average price for gas per therm, inclusive of payments for the use of slot meters and fittings, is 6·46d., against 7·35d. last year. The yields of coke and tar have been good; the average value realized for coke has been a little better, with tar slightly lower. The unaccounted-for gas is reduced to 6·46%, a figure which is not unreasonable, having in mind the various factors which are responsible for the total make-up of this figure.

Coatbridge.

In submitting the statement of accounts and balance-sheet for the year ended June 30, 1935, the Directors of the Coatbridge Gas Company report that the sales of gas for the twelve months amounted to 1,376,692 therms. At the Ordinary General Meeting of Proprietors the payment of final dividends at the rates of £9 5s.% actual on the original stock, and £6 9s. 6d.% actual on the four issues of £10 shares, all less income-tax, were recommended.

Colonial Gas Association, Ltd.

The Directors' report for the year ended June 30, 1935, states that after providing for depreciation, &c., the balance at credit of revenue account is £108,572. Adding the balance brought forward from last year—*viz.*, £23,574, and deducting bank, loan, and debenture interest, and after payment of interim dividend of 4% and 3% for the half-year ended Dec. 31, 1934, paid in April last on the preference and ordinary shares respectively, the amount at credit of the net revenue account is £66,470. The Directors recommend as follows: That a dividend at the rate of 8% per annum (less interim dividend of 4% for the half-year ended Dec. 31, 1934) be paid on the preference shares; and that a dividend at the rate of 6% per annum (less interim dividend of 3% for the half-year ended Dec. 31, 1934) be paid on the ordinary shares; that the sum of £4,000 be transferred to the credit of the reserve fund; and that the balance, approximately £24,890, be carried forward to the next account. The sales of gas for the Association's works show an increase of 5·3% on the sales for the preceding year, and those for the subidiary companies an increase of 1·7%. On Jan. 1, 1935, 404 £50 8½% debentures (£20,200) matured, and these were duly redeemed. The business of the Company continues to expand, and resolutions will be submitted to the shareholders at the annual meeting increasing the authorized capital of the Company by a further 100,000 ordinary shares.

Elgin.

The annual report of the Engineer and Manager of the Elgin Gas Department, Mr. Peter Low, shows an increase in the amount of gas sold of 8,037,600 cu.ft., or 8·44%. The gross profit for the year was £4,373. The net profit increased by £155 to make the net credit balance £4,484.

THE B.C.G.A. CONFERENCE.

The Annual Dinner

On Tuesday evening, Oct. 1, a Dinner to the retiring President—Councillor Walter Muter—was held at the North British Station Hotel. Mr. H. STANLEY TAYLOR (the incoming President) was in the chair, and there was a Company of 250 members and guests.

Colonel W. M. CARR (President of The Institution of Gas Engineers) proposed the Toast of "The Corporation and City of Edinburgh," remarking that the delegates had been overwhelmed by the warmth of the reception they had received during their stay in Edinburgh—a City which had impressed itself upon all of them as being one of the most progressive and most ably managed. Referring to the past President—Councillor Muter—he said that all past-Presidents of the Association would endorse it when he said, in no manner derogatory to their own great work, that the Association had never had a better or more hard-working President than Councillor Muter, and moreover, the Conference under Councillor Muter's Presidency had been one of the most outstanding that had ever been held.

Speaking of the Gas Industry, Colonel Carr said he would be excused if he said that the Industry believed it had one of the most important jobs in the nation. It believed that as an Industry it was destined to provide the solution of the problem of how best to use our national wealth—coal. While the sister industry might vie with gas in the field of lighting, and might be able to provide most excellent lighting, and also power, the Gas Industry felt that it was the answer as to how the chief requirements of the nation were to be provided both for industrial and domestic use. For that reason the delegates had been encouraged by the reception they had been given in Edinburgh and they were also encouraged by the fact that there had been brought into their midst during the Conference the local representatives of His Majesty's Government to which the Gas Industry looked for a fair field and no favour. The Industry believed it would get that, and in that belief was satisfied that it would continue like the City of Edinburgh, old—only 100 years, though old as far as industries went—but young in spirit; for if there were an ancient City which was young in spirit he suggested it was the City of Edinburgh.

In coupling the Toast with the name of Bailie Laurence Raithby, Senior Magistrate of Edinburgh, Colonel Carr said on behalf of the British Commercial Gas Association and all those in the Industry who had been privileged to attend this Conference, that they would long remember their visit and the great hospitality and kindness which had been extended to them.

Bailie LAURENCE RAITHBY said that the Lord Provost—Sir William Thomson—had asked him to express his regret that he was unable to be present, and at the same time, to wish that they would all have a very happy evening. He thanked Colonel Carr for the kind reference he had made to Edinburgh and also the appreciation that had been expressed of the work done by Councillor Muter as President of the Association.

"The Guests."

The CHAIRMAN proposed the Toast of "The Guests" and coupled with it the name of the Earl of Rosebery.

The EARL OF ROSEBERY, in reply, commented on the fact that the Gas Industry was started by Murdoch by the heating of shale in his mother's teapot and said that personally he was very sorry that more shale was not being heated at the present time. From that small beginning, he understood that the Gas Industry was now the second biggest ratepayer in the whole of the British Isles. That was a great thing not only for the Industry but also for the ratepayers, although it did not seem to make ratepayers have to pay any less. It was a striking feature that the Gas Industry commanded such respect and confidence among everybody in the country, having regard to the enormous amount of capital invested in it. In other countries it was often found that the inhabitants there rather fought shy of investing in undertakings in their own countries, and this rather showed that the great Gas Industry and others in this country in which so much British capital was invested, had been built up from the bottom on sound foundations. Moreover, the happy relations existing between the employers and employees in the Gas Industry helped to knit the country together and was of great use and value altogether apart from the actual Industry concerned. In conclusion, he expressed the appreciation of the guests for the hospitality they had received.

The CHAIRMAN said he would claim the privilege as President of the Association for mentioning a matter which he had not had an opportunity of referring to previously. The Bath Gas Company hoped that the Association would honour Bath by holding its next Convention there, and he had received from the Mayor of Bath a telegram in which the Association was assured of a splendid welcome in Bath. At the same time, the Chairman said he wished to take the opportunity of expressing his personal thanks to Councillor Muter for the excellent work which he had done, not only for the Association during the year but in making the arrangements for the Conference. So far as he was concerned he regarded the Edinburgh Conference as one of the most outstanding of all the Association's Conferences and, concluded the Chairman, in case Councillor Muter might think that Edinburgh and Bath were rivals as Conference Cities, he would say to him in all humility that they were not rivals because Bath was unrivalled!

Sir H. W. RUSSELL BENCRAFT, proposing "The Retiring President and the Members of the City of Edinburgh Gas Committee," congratulated the Edinburgh Gas Committee upon its wisdom in selecting Councillor Muter as its Convener, and added that on behalf of his colleagues of the British Commercial Gas Association he would say at once that Councillor Muter had been an ideal President of the Association during the past year. Not only had he presided over the deliberations of the Association with tact and great ability, but he had also shown a sense of humour which was so essential in such positions as those which Councillor Muter had held.

Councillor MUTER, responding to the Toast, said he had been very deeply touched by the reception he had received. He would also be inhuman if he did not pay tribute to the encouragement he had received from the members of the Gas Committee and the Chairman of the Public Utilities Committee. He added that in Edinburgh they had a form of civic government which he claimed at once made for efficiency, for the Public Utilities Committee presided over by Councillor Fergus Harris was responsible for the government and conduct of the gas, transport, water, and electricity concerns. In this connection he took the opportunity of thanking the Town Clerk and the members of his staff and also the City Chamberlain for the very practical help and encouragement they had given to the Public Utilities Committee in the multifarious tasks it had to deal with from year to year.

The Gas Industry, continued Councillor Muter, had not received very much help from the Houses of Parliament. The spoiled darling of the present and preceding Governments, whatever the political hue or complexion of the party in power might have been, had been the electrical industry, and from time to time the National Gas Council, aided and abetted, quite rightly, by local authorities, had had to make representations to His Majesty's Ministers. He was sorry that there was not present that evening a representative of the Board of Trade. As a matter of fact, they had hoped to have with them the President of the Board of Trade, Mr. Walter Runciman, but he had been detained on official business elsewhere. There was present, however, the Lord Advocate as well as the two local Members of Parliament, Mr. J. C. M. Guy and Mr. D. M. Mason, and in all humility and with due deference to His Majesty's Ministers and the two representatives of the people who were present, he wished to say, perhaps not without design, that the Industry required from Parliament the same measure of freedom that Parliament had conferred on their electrical rivals. They required an equal amount of freedom and an opportunity of dealing with the question of the minimum charge. He was not going to be so presumptuous to traverse the work that was properly carried out by the National Gas Council, but he did say to their Parliamentary friends who were present, that the Industry expected from Parliament, perhaps sooner than later, a greater measure of freedom from legislative enactment than had been the case hitherto. The Act of 1934 went a long way towards remedying some of the grievances under which the Industry laboured and suffered, but he said advisedly and designedly that sooner than later the Houses of Parliament must take into their confidence the representatives of the Gas Industry, in order that they might go forward to the task of co-ordination to which he himself had referred in his Presidential Address.

Speaking to his successor in office, Councillor Muter expressed the hope that Mr. Taylor would, during his year of office, experience the same happy circumstances which had characterized the work of the Association during the past year, and added that he viewed the future of the Gas Industry with confidence and hope. There was, he said, a great future before the Industry.

Thanks to the Organizers.

Sir FRANCIS GOODENOUGH, C.B.E., proposing the health of Mr. James Jamieson, the General Manager of the Edinburgh Corporation Gas Department, spoke of the hard work which he and his staff had done to make the Conference possible and successful. Only those who had organized a Conference knew what work was involved and, added Sir Francis, everybody would wish specially to thank Mr. Munro as well as Mr. Jamieson while, at the same time, thanking every member of the staff.

Mr. JAMES JAMIESON, expressing his appreciation of what Sir Francis Goodenough had said and the reception it had received, said his own part in the arrangements for the Conference had been very simple for the reason that he did not meddle in them

at all. When it had been suggested that a local Secretary should be appointed the choice immediately fell upon Mr. Munro, the Edinburgh Gas Sales Manager, and any thanks were due entirely to him. At the same time, Mr. Munro had been supported very ably by all the members of the staff. In conclusion, Mr. Jamieson said he appreciated the many friends he had in the South who had come to Edinburgh to support the Conference and the work of the Association, and at the same time, he expressed his appreciation of the manner in which the members of the Committee had supported the arrangements that were made for the Conference, and lastly referred to the pleasure they had all felt at the presence of the Lord Provost at two of the functions.

The Rt. Hon. DOUGLAS JAMIESON, K.C. (Lord Advocate for Scotland), said he rose not because of anything that had been said by his namesake, and not because of anything said by Councillor Muter, who had addressed a few remarks to himself and his colleagues in Parliament, but because he did not feel they would wish to part without drinking the health of the Chairman.

The CHAIRMAN briefly expressed his thanks, after which the proceedings closed.

CANDID CRITICISMS OF
The B.C.G.A. Publicity Films

The writer of the following notes is not anti-gas. Indeed, he is a user of gas and has interests in the Gas Industry which are not unimportant to him. He has seen the B.C.G.A. propaganda films, and has set forth his reactions to them as a user of gas and essentially as a member of the general public.

The British Commercial Gas Association has quite rightly brought the talking film into the scheme of gas propaganda and has had ten films prepared. Five of these are definitely propaganda films and the others are straight amusement films, the object being to permit of a programme being presented which can be varied at will so that a combination of propaganda and amusement films can be shown at the discretion of those giving the demonstrations. The present writer realizes that it is not the intention that any of these films should be shown at public cinemas—a wise course, for there is little doubt that the ordinary cinema audience to-day, whatever might have been the position in the early days of films, is definitely intolerant of advertising or propaganda films being introduced into their entertainment. After all, we do not get this sort of thing in the theatre or even the music hall, and why should a person who has paid for a show at a cinema be expected to be treated otherwise. Moreover, cinema managers are not keen themselves nowadays on this type of film, and it is well that the B.C.G.A. have appreciated this.

Of the ten films that have been prepared, the five propaganda films bear the following titles:

How Gas is Made.
Men Behind the Meters.
Dinner Hour.
The Private Life of Old King Coal.
Housing Problems.

The Purpose of the Films.

In this programme the aim has been to depict in an entertaining and educational manner the story of what gas is, what it is doing, and what it can do. Having seen these films, and also films produced for similar purposes a short time ago by the propaganda organization of a certain other industry, one can only reflect on the enormous difficulties which obviously exist in producing films for these purposes which combine the essential qualities of providing interest and conveying the "message" in an effective manner. It certainly seems necessary to make some enquiries into the reactions of the general public to propaganda films of this nature, otherwise it is to be feared that if the type of film already produced is continued it will miss the mark altogether. Happily, I know that within the Association some of the shortcomings are already appreciated, and steps are being taken to remedy them, but it seems to me that the whole position needs careful review.

Everything that is said in the excellently prepared brochure dealing with these films is true, but the achievement of all that is there set out depends obviously on the film itself. Although, as already mentioned, it is not the intention to exhibit these films at public cinemas, I venture to suggest that the psychology and mentality of the audiences to which the films are to be shown are no different, *qua* the films themselves, from those of the ordinary cinema audience, and therefore too much stress should not be laid upon the fact that the films are to be shown to special audiences. The idea is that the films will be shown to what are described as "Existing Audiences" and "Invited Audiences." The "Existing Audience" is that provided in the membership of various organizations in the locality—social, political, religious, sporting, &c.—while the "Invited Audience" will be that organized by the local gas undertaking and invited either to the showroom—if there is a convenient hall there—or to some other building in the locality, and the B.C.G.A. has made what appear to be excellent arrangements to assist in all the necessary preparations.

A General Critique.

Now as to the films themselves. The primary object is to encourage the use of gas and to make people gas-minded. There is a great advantage in showing them to the types of audiences which have been mentioned, for they will go to see them with a definite understanding of what is to be put in front of them, and probably whether the films be good or bad these audiences will have had impressed upon their minds something of the magnitude and achievements of the Gas Industry and the enormous organization at the back of their supply of gas, the availability of which, like so many other of our everyday wants, is too often taken as a matter of course and without a second thought. The films, however, must do a great deal more than this. They must make people want to use more gas. Are these particular films likely to achieve this object? At once I say quite frankly that I doubt it, and for the reason that throughout the five propaganda films there is far too little pictorial representation of what the modern Gas Industry has to offer the domestic user—they do not deal with industrial uses naturally as these are a special case. In all fairness, however, it should be said that this defect has already been recognized, and additions are to be made which it is hoped will remedy it.

This one criticism, nevertheless, important though it is, leaves a great deal more to be said. The general public has been educated, subconsciously it may be, to become highly critical of films in their details, and because an audience is labelled an "Existing Audience" or an "Invited Audience" there is no reason to assume or imagine that it will be any different. As a broad generalization the general public has a real sense of humour, and this often finds expression in unexpected ways—and sometimes ironically at the wrong moment—in the ordinary cinema, due to faults in production. Any slip in matters of detail is quickly taken up, and the result is that the film to that extent is ridiculed no matter what good points it may contain. It is common to hear outspoken expressions that certain features of a film are ridiculous or absurd—or even something more expressive—and it is this which is to be feared as regards at any rate certain portions of the B.C.G.A. propaganda films, which in parts are good, bad, and indifferent.

Before pointing out a few of the directions in which the films reacted upon me unimpressively, the general observation might be made that there is a great deal lacking

in continuity, and more attention to the editing is needed. One particular instance of this is that at one moment we see the working of a huge kitchen in a restaurant, and the next moment, without a great deal of rhyme or reason, we are whisked over to the meter room at the gas-works with men recording gas pressures and so on. I am visualizing, of course, the reaction upon the mind of the type of person who may be expected to see these films in the districts, whose mind I am satisfied will be left a little confused on quite a number of occasions in this way.

Questions of Detail.

A few comments on matters of detail are necessary to substantiate the general remarks that have been made. No attempt will be made to take the films individually, although something is called for, I feel, in the case of the " Housing Problems " film, which will be referred to later.

While reluctant to say so, the films cannot but be regarded as, in parts, unconvincing, incomplete, and a little unnatural. Let me particularize. I do know that the employees in the Gas Industry are a happy and contented lot, but do they come in each morning whistling their hardest and, so to speak, on their toes, when they sign on; do they always again whistle what appears to be their hardest when pushing their trucks about, and do the apprentices always make the roof ring with their whistling all day while they are doing their job of work? If the particular men depicted in this film are always like this, then there is something which cramps the style of the men in my district. I recall one representative who called *re* a leak who was far from it and, incidentally, he quoted what proved on enquiry to be something like double the right price for replacing what turned out to be the wrong pipe, for the leak was subsequently found to be in another pipe! That by the way, but this whistling business is overdone on the film.

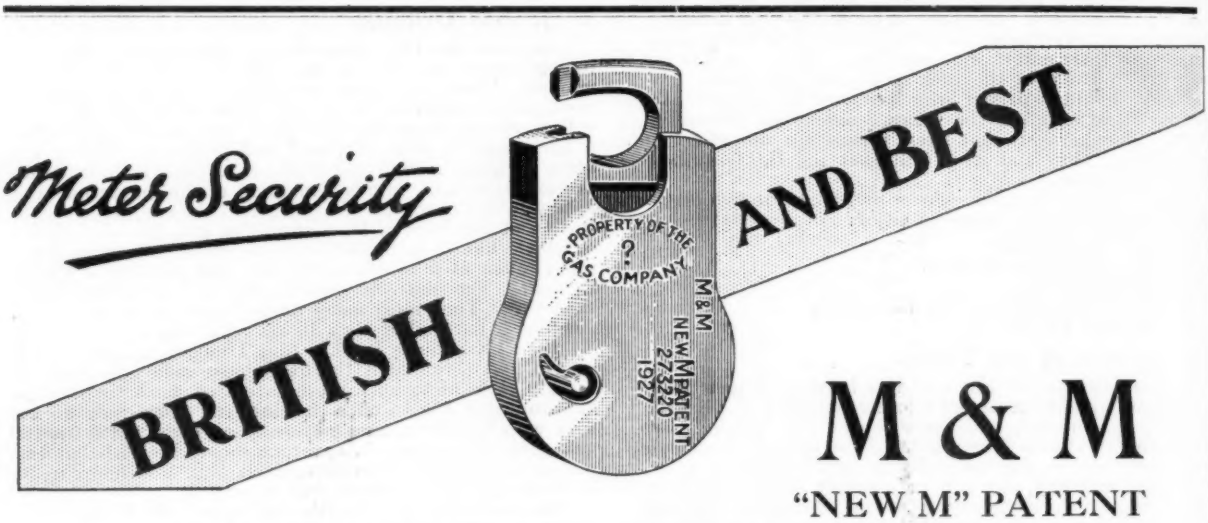
At one stage we are told that gas effectively lights our streets—or words to that effect—and accompanying these words is a picture of a pretty girl in bed with, presumably, a street lamp shining through her bedroom window full on her face. Apart from the fact that we do not see a street lamp nor even a street, I ask you could or would any pretty girl sleep in the full glare of a street lamp? I know one who would make me pull the blind down!

Coming back to the apprentices again, the producer seems at fault presumably in his desire to get close-ups which, however, do not seem altogether necessary, in putting what appears to be almost a spotlight on the boy or boys, leaving the whole of the surroundings in semi-darkness. From a practical point of view, if these were the actual conditions the boys would have great difficulty in finding their tools and there would seem to be a job waiting for the gas illuminating engineer. In connection with the training of apprentices, too, I wonder what impression it will make upon the audience to hear the instructor tell a boy that he has " tears inside and tears outside " the joint he is making.

In many instances the sequence of events is too hurried and there is difficulty in following what is being said. In a London hospital kitchen there are some comments by one of the ladies in charge who rattles off something with regard to dietary in a fine B.B.C. female-lecture voice. In the same way there is a chef in a hotel kitchen who tells us how to cook braised duck. It may not have been intended that what he said should be taken note of by any keen housewife-cook, but in any event he said it in such broken English and so indistinctly that he might have saved himself the trouble. In a small way, too, there is a certain lack of sense of proportion. True, these films are intended for exhibition to all classes, but in the main the Gas Industry, on the domestic side, has very prominently in mind the middle and working classes, without of course excluding those of more ample means. The latter may be expected to have the assistance of maids; the former not. Therefore, the picture of another pretty girl—or it may be the same one who had been sleeping under the street lamp—in an amply furnished bedroom, and with nice frills all round her, lighting a gas appliance at the side of the bed for her morning cup of tea has a certain touch of unreality about it. As a matter of fact she rather gives the impression of having just got into the bed to perform this particular operation, so tidy and unruffled is her appearance. There is nothing of the working girl about this picture, yet one's experience of life is that getting up in the morning to go to work is something more of a scramble than this, outside the more fortunate classes.

Revision Required.

Now I come to the " Housing Problems " film, and I would not be doing justice to my own reaction to it if I



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Economy, in locks, entails the use only of the best—design, workmanship, and materials—and the so-called "cheap" imitation of our patent is an expensive trouble. The M & M patent 4-lever, rustless, self-locking meter lock is acknowledged to be the strongest and most secure on the market. Made specially for use on Meters. :: :: ::

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did not say quite outspokenly that I think this is overdone and in some respects unnecessary. As a piece of propaganda among local authorities who may be tardy in dealing with their slum problems, or even for distribution in a general way to awaken the public conscience to this really dreadful problem, it is excellent. The Gas Industry has an important part to play in this matter, but it is not pleading its own cause effectively in this film. Outstanding is the fact that there is nothing in it to depict modern gas equipments for kitchens, bedrooms, and sitting rooms for the blocks of modern flats that are shown at the end of it, and the whole trend of the film must be to take people's minds off gas completely. Even as a film intended solely to drive home the slum problem it is overdone —although that might not be a fault in such circumstances —for there is a certain orderly distribution of paper and garbage in the alleyways in which much of the story is told which makes one a little suspicious. Nor can one imagine what influence it will have upon the sales of gas to show an audience what is intended to be a part of a papered wall in a slum with presumably bugs or beetles running about at a somewhat alarming rate. We see a woman banging a mat against a wall with quite commendable zeal while a child sits in a perambulator close by absorbing the cloud of dust created. No, I do not believe that even a slum mother would do this. My own personal view of this film is that it ought to be completely revised to tell a gas story. In its present form it utterly fails from this point of view.

These are my reflections from careful notes made during a view of the five propaganda films, and although what has been said may appear to be severe—to some who have seen them perhaps too severe, to others not so I know—I fully realize that this is the first effort and I am not condemning either films for gas propaganda nor even these films *in toto*. Indeed, I feel a good start has been made, but the whole position should be reviewed in order that the films will fulfil effectively the purpose which those who are responsible for the fundamental idea underlying them and their production have in view. I know it is realized that there is too little of the gas message conveyed, and most definitely there is a noticeable lack of modern apparatus shown. It almost seems there has been a fall between two stools in certain aspects, but there should be no compunction in emphasizing to the full that the intention is to push the sales of gas, the more so having in view the types of audience to which they are to be shown. A good deal of space is taken up in showing something of the conditions which existed in the days of the flat flame burner, the water-sealed chandelier, the gradual progress to the incandescent mantle, and so on, but I am inclined to wonder whether this could not be more usefully occupied with greater attention to modern times. History is all right in its place, but for this particular purpose I personally am much more interested in keeping myself up-to-date in all my domestic and other arrangements than what I consider wasting time, in such circumstances as these films will be exhibited, looking at pictures of the conditions 50 years ago. I say this as one old enough to have seen the tail end of the flat flame burner days, and I flatter myself that I understand the temperament of the younger generation sufficiently well to be able to assert that they are even more intolerant—again, I repeat in the circumstances in which these films will be exhibited. Full allowance must necessarily be made for the licence which all films must be permitted, but propaganda films stand apart in this respect compared with the ordinary film. They should tell a straightforward story in such a way as to leave on the mind an impression of a whole, and not a miscellany of disconnected bits which pass out of remembrance almost immediately. Admittedly, all who see these films will appreciate full well that they are boosting gas, but the results anticipated should go much further than that. When more is made of the modern gas appliances that are available it should be possible to link the films very closely with demonstrations which, after all, is the sheet anchor to which all sales development must be tied. Films will never take the place of demonstrations, and valuable as films are in their right perspective, the expenditure upon them must be assessed from that point of view.

My final summing up is that I imagine the B.C.G.A. will not be satisfied with these films as they are, or will not be satisfied with their own degree of dissatisfaction, which I have indicated.

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SELF-ADJUSTING PIPE JOINT

THE STANTON-WILSON SELF-ADJUSTING PIPE JOINT enables over 500 miles of spun iron mains to adjust themselves to the subsoil movements caused by ground subsidence and traffic vibration. Owing to the flexibility of the joints, these mains were laid with very few specials.

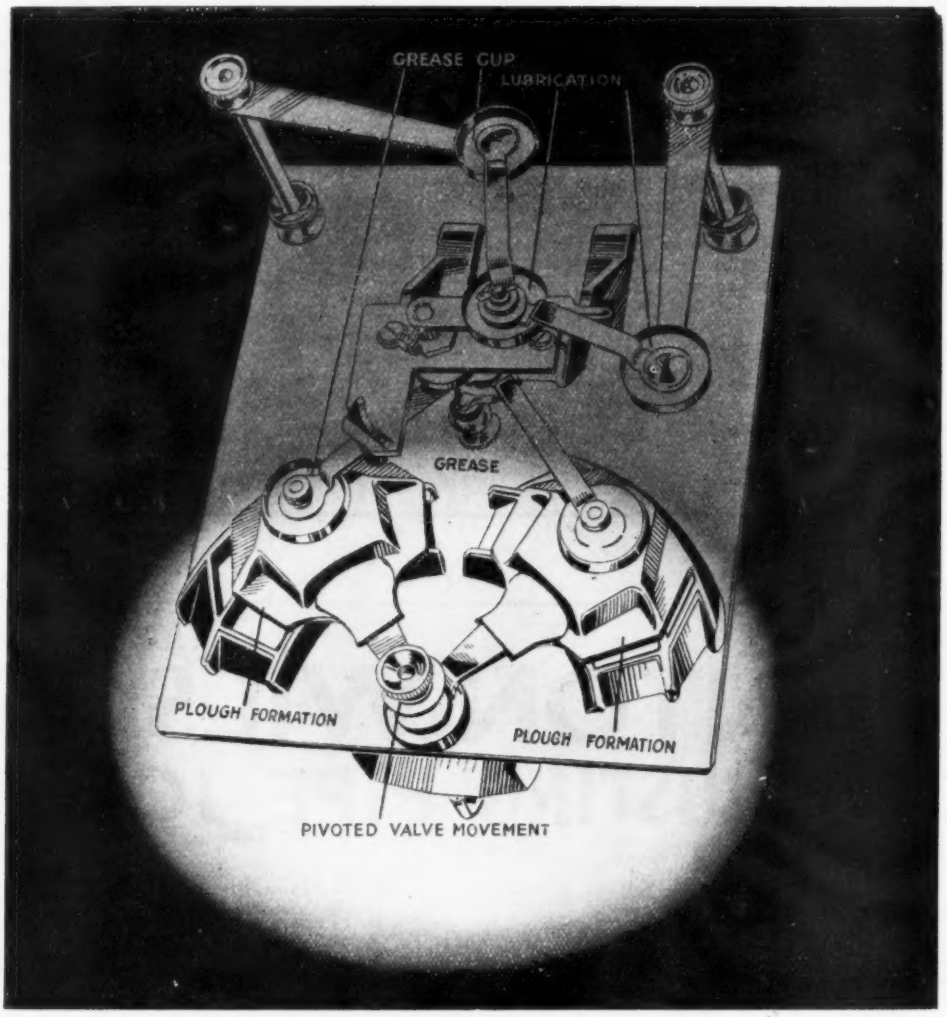
THE STANTON IRONWORKS COMPANY
LIMITED, Nr. NOTTINGHAM

ROBINSON'S "FLEXIBLE-OUTPUT METER"

Fitted with well-known Plough Valves

A PIONEER OF METERS OF LARGE CAPACITY. They have many exclusive features which have been proved by use and long period tests at high speeds to be of inestimable value.

ONLY MATERIALS OF PROVED WORKING VALUE ARE USED



THE PIVOTED SLIDE VALVES OF THE "FLEXIBLE-OUTPUT METER"

THEY CLEAN AS THEY SLIDE AND HELP THE GAS FLOW.

A typical 100 cu. ft. per hour meter worked at varying speeds up to 500 cu. ft. per hour has now passed over 5 million cu. ft. without sign of wear and still registers CORRECTLY.

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Gas Markets and Manufactures

Stock Market Report

(For Stock and Share List, see later page)

The uncertainty which has been lately hovering over markets was removed last week when war commenced between Italy and Abyssinia. Dealers, fearing a big selling movement on the part of nervous holders, immediately marked down prices, but subsequent events proved their action unnecessary. Though the course to be followed by the League of Nations still remains in doubt, the belief in the City that the trouble would remain localized was sufficient to curb selling, and towards the close markets became distinctly brighter. Under the lead of the gilt-edged section prices rapidly improved, and the Prime Minister's reference in his speech to increased expenditure on the country's defences brought about a large demand for iron, steel, and aircraft shares.

The general recovery came too late in the week to have any material effect on the Gas Market, and prices which had fallen earlier in the week in common with other securities remained at the lower levels. Derby consolidated, on the Nottingham Exchange, showed the largest decrease with a drop of 5 points to 180; South Metropolitan and Imperial Continental ordinary stocks both fell 3 to 122½ and 207 respectively; and Gas Light units lost 6d. to 26s. 3d. A few preference and debenture issues also weakened a point or two. On the other side of the picture, however, several parcels of the Portsmouth Company's two stocks came into the market which brought about a gain of 2 points in both cases, the 4% rising to 175½ and the 5% maximum to 112½, while Uxbridge ordinary gained 1 to 153½.

It may be worth noting that there are several stocks in the List which are now standing at comparatively low prices—*e.g.*, Commercial ordinary at 102½, Imperial Continental at 207, South Metropolitan ordinary at 122½, and several 3% debenture stocks at round about 87.

Current Sales of Gas Products

The London Market for Tar Products.

Oct. 7.

There are no changes to report in the prices of tar products, which remain as follows:

Pitch, about 32s. 6d. per ton f.o.b.
Creosote, about 6d. per gallon.
Refined tar, 4d. per gallon in bulk at makers' works.

The demand for pure toluole continues good, the price being not less than 2s. 3d. per gallon; pure benzole, 1s. 7d. to 1s. 8d.; 95/160 solvent naphtha, 1s. 5d.; and 90/160 pyridine, about 4s. 6d. to 4s. 9d.—all per gallon naked at makers' works.

Tar Products in the Provinces.

Oct. 7.

The average prices of gas-works products during the week were: Gas-works tar, 18s. to 23s. Pitch—East Coast, 31s. to 33s. f.o.b. West Coast—Manchester, Liverpool, Clyde, 31s. to 33s.* Toluole, naked, North, 1s. 8d. to 1s. 9d. Coal-tar crude naphtha, in bulk, North, 6¾d. to 7d. Solvent naphtha, naked, North, 1s. 5d. to 1s. 5½d. Heavy naphtha, North, 11d. to 11½d. Creosote, *ex* works, in bulk, North, liquid and salty, 5¼d. to 5½d.; low gravity, 5d. to 5¼d.; Scotland, 5d. to 5¼d. Heavy oils, in bulk, North, 5d. to 5¼d. Carbolic acid, 60's, 1s. 11d. to 2s. Naphthalene, £11 to £13. Salts, 65s. to 75s., bags included. Anthracene, "A" quality, 2½d. to 3d. per minimum 40%, purely nominal; "B" quality, unsalable.

* All prices for pitch are now quoted on the basis of f.o.b. In order to arrive at the f.a.s. value at any port it will be necessary to deduct the loading costs and the tolls whatever they may be.

Tar Products in Scotland.

GLASGOW, *Oct.* 5.

While new business is still rather difficult, quotations are well maintained.

Crude gas-works tar.—The actual value is 26s. to 28s. per ton *ex* works in bulk.

Pitch is still quoted freely at 30s. per ton f.o.b. Glasgow for export, and 30s. per ton *ex* works in bulk for home trade.

Refined tar is now quiet in the home market, but export business remains fairly steady. Value to-day is unchanged at 2⅞d. per gallon f.o.r. in buyers' packages.

Creosote oil.—With most buyers well covered on contract, new business is not plentiful. Prices are, however, not lower than the following:—B.E.S.A. Specification, 5⅛d. to 5⅜d. per gallon; low gravity, 5¼d. to 5½d. per gallon; and neutral oil, 5¼d. to 5½d. per gallon; all f.o.r. in bulk.

Cresylic acid is in fair request, with prices as follows: Pale, 97/99%, 1s. 2d. to 1s. 3d. per gallon; dark, 97/99%, 1s. 1d. to 1s. 1½d. per gallon; and pale, 99/100%, 1s. 3½d. to 1s. 4½d. per gallon; all *ex* works naked.

Crude naphtha continues to command 4½d. to 5d. per gallon f.o.r., according to quality and district.

Solvent naphtha.—90/160 grade is valued at 1s. 3½d. to 1s. 4d. per gallon, and heavy naphtha, 90/190, is decidedly scarce at 11d. to 1s. per gallon.

Motor benzole.—Supplies in this district being short, value is purely nominal at 1s. 3½d. to 1s. 4d. per gallon in bulk at makers' works.

Pyridines.—90/160 grade is 5s. 6d. to 6s. per gallon, and 90/140 grade 6s. to 6s. 6d. per gallon.

Benzole Prices.

These are considered to be the market prices for benzole at the present time:

	s.	d.		s.	d.			
Crude benzole . . .	0	9½	to	0	10	per gallon	at works	
Motor ,, . . .	1	3	,,	1	3½	,,	,,	,,
90% ,, . . .	1	4	,,	1	4½	,,	,,	,,
Pure ,, . . .	1	7½	,,	1	8	,,	,,	,,

Contracts Advertised To-Day

Locks for Prepayment Meters.

Hartlepool Gas and Water Company. [p. 146.]

Pipes, &c.

Workington Gas Department. [p. 146.]

Water Gas Plant.

Oswaldtwistle Gas Department. [p. 146.]

Trade Notes

An Acquisition by New Geysers, Ltd.

New Geysers (1931), Ltd., announce that they have recently acquired the goodwill of W. J. Davis Engineering Company, Ltd., of 162, Upper Kennington Lane, S.E., where they will continue the manufacture of, and repairs to, all W.J.D. appliances as heretofore.

Motor Show, 1935—Alexander Duckham's Exhibit.

The exhibit that Messrs. Alexander Duckham & Co., Ltd., are staging at Olympia at Stand No. 291 is sure to attract considerable attention, being conspicuous by reason of the giant replica of their familiar black and white roadside equipment. The most important exhibits comprise Duckham's "Wear-Cure" tablets (recently described in the "JOURNAL"), Morrisol "Sirrom" (Registered) brand oils, Duckham's aero N.P. oils, and "Keenol" lubricants.

Valve Position Indicator.

In operating equipment heated or driven by steam it is often essential and always helpful to know the exact amount of steam passing through the supply valves. The "Telco" valve position indicator enables you to see at a glance the exact degree to which any valve is open. It is a simple mechanical device taking the place of the handwheel and completely eliminates any guesswork. The indicator is manufactured by Telco Products, Ltd., 6, Gordon Square, London, W.C. 1.

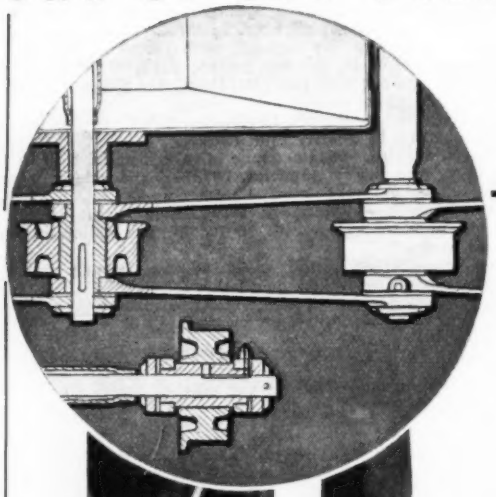
Overseas Opportunities

Santiago.

The Commercial Secretary to H.M. Embassy at Santiago reports that the Supplies Department of the Chilean Government is calling for tenders, to be presented in Santiago by Oct. 17, 1935, for the supply of 32,200 metres of galvanized iron piping. (Ref. T.Y. 5335.)

ONE OF THE WELL-KNOWN FEATURES OF

WEST'S MECHANICAL HANDLING SYSTEMS



Oil passages are so disposed that all bearing surfaces in the conveyor chain receive thorough lubrication.

EVEN LONGER LIFE AND EVEN LESS RENEWALS . . .

are assured by the introduction of automatic lubrication to the improved West Lip-bucket Conveyor. Coke-handling, an old "bogey" for conveyors of the bucket type, becomes a trouble-free and smoothly efficient operation.

Fuel-handling Conveyors of all Types

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Coal Breakers

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Coke Cutters and Graders

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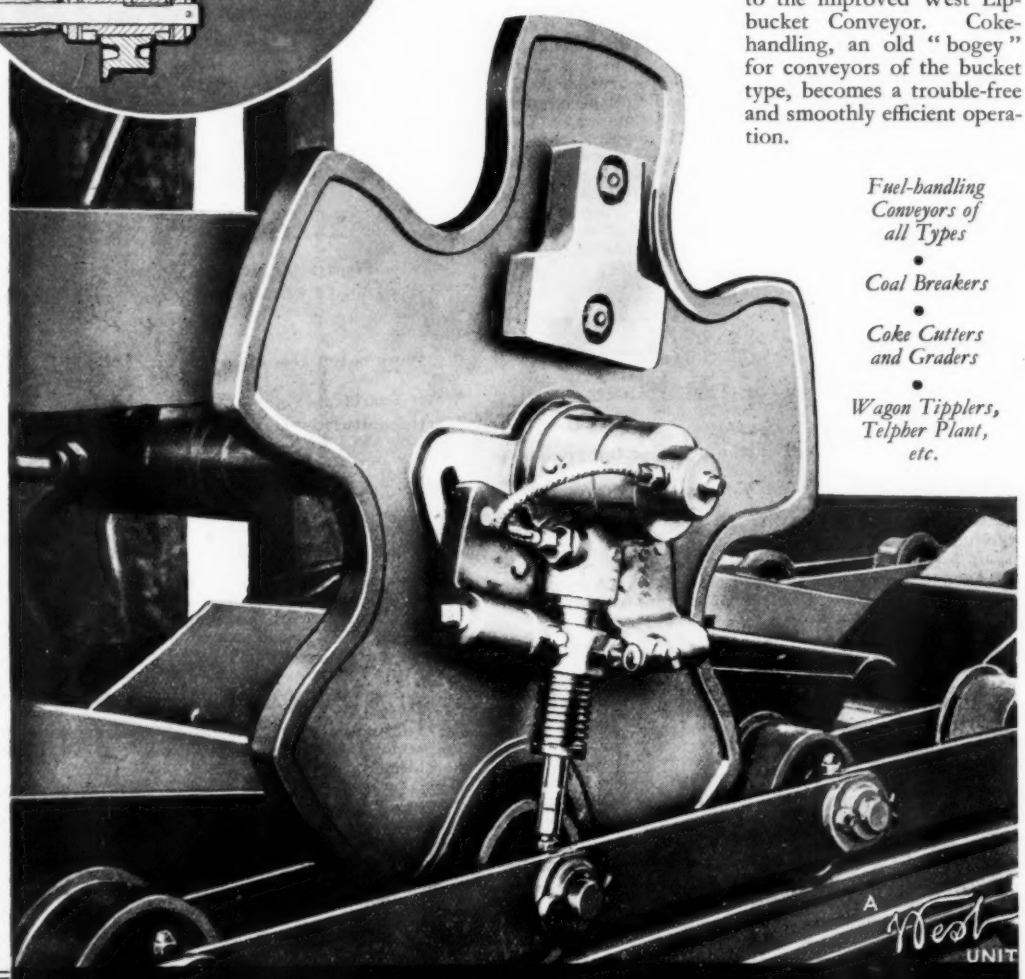
Wagon Tipplers, Telpher Plant, etc.



THE *West* LIP-BUCKET CONVEYOR

. . . with Automatic Forced Lubrication

WEST'S GAS IMPROVEMENT COMPANY, LTD.

MANCHESTER : Albion Ironworks, Miles Platting

LONDON : Regent House, Kingsway, W.C.2

STOCK AND SHARE LIST

Official Quotations on the London and Provincial Stock Exchanges

Issue. £	Share	When ex-Dividend.	Dividends. Prev. Hf. Yr. % p.a.	Dividends. Last Hf. Yr. % p.a.	NAME.	Quotations Oct. 4.	Rise or Fall on Week.	Transactions, Lowest and Highest Prices During the Week.
1,551,868	Stk.	Sept. 9	7	7	Alliance & Dublin Ord. ...	130—140*	...	137
374,000	,,	June 24	4	4	Do. 4 p.c. Deb. ...	97—102	...	99—99⅝
557,655	,,	Aug. 12	7	7	Barnet Ord. 7 p.c.	165—170	...	...
300,000	1	Apl. 8	1/4⅛	1/9⅜	Bombay, Ltd.	1⅛—1⅝	...	...
178,480	Stk.	Aug. 12	9½	9½	Bournemouth sliding scale ...	222—232	...	...
550,050	,,	,,	7	7	Do. 7 p.c. max. ...	168—173	...	170—170½
489,160	,,	,,	6	6	Do. 6 p.c. Pref. ...	147—152	...	...
50,000	,,	June 24	3	3	Do. 3 p.c. Deb. ...	85—90	...	...
262,025	,,	,,	4	4	Do. 4 p.c. Deb. ...	106—111	...	110
335,000	,,	,,	5	5	Do. 5 p.c. Deb. ...	123—128	...	...
357,900	,,	Aug. 12	7½	7½	Brighton, &c., 6 p.c. Con. ...	170—175	...	172½
649,955	,,	,,	6½	6½	Do. 5 p.c. Con. ...	156—161	...	...
205,500	,,	,,	6	6	Do. 6 p.c. B. Pref.	142—147	...	...
1,487,500	,,	July 8	5	5	Bristol, 5 p.c. max.	120—122*a*	...	...
120,420	,,	June 7	4	4	Do. 1st 4 p.c. Deb. ...	102—104*a*	...	...
217,870	,,	,,	4	4	Do. 2nd 4 p.c. Deb. ...	101—103*a*	...	...
328,790	,,	,,	5	5	Do. 5 p.c. Deb.	127—130*a*	...	...
855,000	,,	Sept. 23	8	7	British Ord.	152—157*	...	154½—156
100,000	,,	June 7	7	7	Do. 7 p.c. Pref.	160—165	...	...
350,000	,,	,,	5½	5½	Do. 5½ p.c. "B" Cum. Pref.	112—117	...	...
120,000	,,	,,	4	4	Do. 4 p.c. Red. Deb. ...	95—100	...	...
450,000	,,	,,	5	5	Do. 5 p.c. Red. Deb. ...	109—114	...	...
200,000	,,	,,	...	17/6⅝	Do. 3½ p.c. Red. Deb. ...	99—101	...	...
100,000	10	22 May '33	6	4	Cape Town, Ltd.	1—3	...	...
100,000	10	6 Nov.'33	4½	4½	Do. 4½ p.c. Pref. ...	1—3	...	...
150,000	Stk	June 24	4½	4½	Do. 4½ p.c. Deb. ...	83—88	...	...
626,860	,,	July 22	6	6	Cardiff Con. Ord.	127—132	...	...
237,860	,,	June 7	5	5	Do. 5 p.c. Red. Deb.	107—112	...	...
157,150	,,	Aug. 12	6½	5	Chester 5 p.c. Ord.	109—114*b*	...	...
98,936	1	Sept. 23	2/-	2/-	Colombo, Ltd., Ord.	1⅛—1⅛*	...	...
24,500	1	,,	1/4⅛	1/4⅛	Do. 7 p.c. Pref. ...	20/—22/*	...	...
609,204	1	Mar. 25	-/11·48	-/11·48	Colonial Gas Assn. Ltd. Ord.	20/—22/-	—/6	...
296,053	1	,,	1/3·30	1/3·30	Do. 8 p.c. Pref.	25/—27/-	...	...
1,775,005	Stk	Aug. 12	6	5	Commercial Ord.	100—105	...	102½—103¾
620,000	,,	June 7	3	3	Do. 3 p.c. Deb. ...	85—90	—2	91
286,344	,,	Aug. 12	5	5	Do. 5 p.c. Deb. ...	121—126	...	...
807,560	,,	Aug. 12	7	7	Croydon sliding scale... ...	151—156	...	153½
569,590	,,	,,	5	5	Do. max. div.	113—118	...	...
620,385	,,	June 24	5	5	Do. 5 p.c. Deb.	123—128	...	...
542,270	,,	Aug. 12	10	7	Derby Con.	175—185*c*	—5	...
55,000	,,	June 24	4	4	Do. 4 p.c. Deb.	100—105*c*	...	...
239,000	,,	Aug. 12	5	5	East Hull Ord. 5 p.c.	109—112	...	...
181,625	,,	Aug. 12	6	6	East Surrey Ord 5 p.c. ...	129—134	...	...
175,609	,,	June 7	5	5	Do. 5 p.c. Deb. ...	123—128	...	...
19,313,481	,,	Aug. 12	5⅜	5⅜	Gas Light & Coke 4 p.c. Ord.	25/9—26/9*f*	—/6	25/10½—26/9
2,600,000	,,	,,	3½	3½	Do. 3½ p.c. max.	88—92	—½	88—91
4,477,106	,,	,,	4	4	Do. 4 p.c. Con. Pref. ...	105—108	—1	106—107½
8,602,497	,,	June 7	3	3	Do. 3 p.c. Con. Deb. ...	85—89	—2½	85—88
3,642,770	,,	,,	5	5	Do. 5 p.c. Red. Deb. ...	114—118	—½	115—115⅜
3,500,000	,,	,,	4½	4½	Do. 4½ p.c. Red. Deb. ...	112—116	—½	116
270,466	,,	Aug. 12	6	6	Harrogate New Cons. ...	132—137	...	...
140,000	1	Sept. 23	1/7½	1/7½	Hongkong & China, Ltd. ...	1¼—1⅛*	...	...
213,200	Stk.	Aug. 12	6	6	Hornsey Con. 3½ p.c....	130—135	...	...
5,600,000	,,	May 13	10	14	Imperial Continental Cap. ...	202—212	—3	203—213½
223,130	,,	July 22	3½	3½	Do. 3½ p.c. Red. Debs.	91—96	...	...
285,242	,,	Aug. 12	8½	8½	Lea Bridge 5 p.c. Ord. ...	175—180	...	175—179
2,167,410	,,	Aug. 12	6	6	Liverpool 5 p.c. Ord....	133—135*b*	—1	...
245,500	,,	June 7	5	5	Do. 5 p.c. Red. Pref. ...	105—110*b*	...	...
306,083	,,	July 8	4	4	Do. 4 p.c. Deb. ...	105—107*b*	+1½	...
165,736	,,	Aug. 26	10	8	Maidstone 5 p.c. Cap. ...	182—192	...	...
63,480	,,	June 24	3	3	Do. 3 p.c. Deb. ...	82—87	...	...
75,000	,,	May 27	†10	†10	Malta & Mediterranean ... Metropolitan (of Melbourne)	210—220	—2	...
392,000	—	Oct. 1	5½	5½	5½ p.c. Red. Deb.	98—103*	—2	...
231,978	Stk.	Aug. 12	5	5	M. S. Utility "C" Cons. ...	108—113	...	...
818,657	,,	,,	4	4	Do. 4 p.c. Cons. Pref.	101—106	...	...
360,075	,,	June 24	4	4	Do. 4 p.c. Deb. ...	103—108	...	...
148,955	,,	,,	5	†5	Do. 5 p.c. Deb. ...	123—128	...	...
125,000	—	July 1	3½	3½	Do. 3½ p.c. Rd. Rg. Bds.	97—100	...	...
675,000	,,	June 24	†3	†3	Montevideo, Ltd.	48—53	...	...
2,061,315	,,	Aug. 12	5⅜	5	Newcastle & Gateshead Con.	25/9—26/3*df*	...	...
682,856	,,	,,	4	4	Do. 4 p.c. Pref. ...	107—108*d**	...	...
776,706	,,	June 7	3½	3½	Do. 3½ p.c. Deb. ...	100½—101½*d*	...	...
277,285	,,	Oct. 8	5	5	Do. 5 p.c. Deb. '43 ...	105—107*d*	...	...
274,000	,,	Aug. 12	5	5	Newport (Mon.) 5 p.c. max....	113—118*a*	...	...
225,000	,,	Aug. 12	7½	7½	North Middlesex 6 p.c. Con.	162—172	...	...
396,160	,,	Aug. 12	5	5	Northampton 5 p.c. max. ...	105—110	...	...
300,000	,,	Apl. 29	†9	†7	Oriental, Ltd.	160—170	...	...
416,617	,,	June 7	8	8	Plym'th & Stonehouse 5 p.c.	162—167	...	...
504,416	,,	Aug 12	8½	8½	Portsm'th Con. Stk. 4 p.c. Std.	172—177	+2	175—175½
241,446	,,	,,	5	5	Do. 5 p.c. max. ...	110—115	+2	113—113½
114,000	,,	July 22	5	5	Preston 5 p.c. Pref. ...	106—111	...	...
321,961	1	Sept. 23	...	1/-	Severn Val. Gas Cor. Ld. Ord.	22/—23/-*	...	23/—23/3
319,510	1	,,	...	-/10½	,, ,, 4½ p.c. Cum. Pref.	21/9—22/9*	...	...
1,736,968	Stk.	Aug. 26	6	6	Sheffield Cons.	140—142*e*	...	...
95,000	,,	June 24	4	4	Do. 4 p.c. Deb.	102—104*e*	...	...
133,201	,,	Aug. 12	5	8½	Shrewsbury 5 p.c. Ord. ...	145—150	...	...
90,000	10	May 27	‡3	‡3½	South African	3—4	...	...
1,061,779	1	Sept. 23	1/2½	1/2½	South East'n Gas Cn. Ld. Ord.	28/—29/-*	...	28/6
845,016	1	,,	-/10½	-/10½	Do. 4½ p.c. Red. Cum. Pref.	22/3—23/3*	...	23/-
450,000	Stk.	Aug. 12	4	4	Do. 4 p.c. Red. Deb. ...	100—103	...	...
6,709,895	,,	Aug. 12	6½	5	South Met. Ord.	120—125	—3	120—125
1,135,812	,,	,,	6	6	Do. 6 p.c. Irred. Pf. ...	147—152	...	149—150½
850,000	,,	,,	4	4	Do. 4 p.c. Irred. Pf. ...	105—109	—1½	107
1,895,445	,,	June 24	3	3	Do. 3 p.c. Deb. ...	85—89	—3½	85—88½
1,000,000	,,	July 8	5	5	Do. 5 p.c. Red. Deb....	114—117	...	115—117
209,820	,,	Aug. 12	8½	8½	South Shields Con.	171—173*d*	...	...
1,543,795	,,	Aug. 12	6	6	South Suburban Ord 5 p.c. ...	126—131	...	...
512,825	,,	,,	5	5	Do. 5 p.c. Pref. ...	120—125	—1	...
500,000	,,	,,	4	4	Do. 4 p.c. Pref. ...	104—109	—1	105
888,587	,,	June 7	5	5	Do. 5 p.c. Deb. ...	123—128	...	124
250,000	,,	,,	4	4	Do. 4 p.c. Deb. ...	105—110	...	...
647,740	,,	Aug. 12	5	5	Southampt'n Ord. 5 p.c. max.	115—120	...	116½—118
121,275	,,	June 7	4	4	Do. 4 p.c. Deb.	100—105	...	...
350,000	,,	Aug. 12	5½	5½	Swansea 5½ p.c. Red. Pref. ...	113—118	...	113½—116¼
200,000	,,	June 7	6½	6½	Do. 6½ p.c. Red. Deb. ...	98—103	...	...
1,076,490	,,	Aug. 12	6½	6½	Tottenham and District Ord.	149—154	...	151—152½
409,835	,,	,,	5½	5½	Do. 5½ p.c. Pref. ...	130—135	...	...
62,235	,,	,,	5	5	Do. 5 p.c. Pref. ...	120—125	...	...
334,615	,,	June 7	4	4	Do. 4 p.c. Deb. ...	101—106	...	101
369,774	,,	Aug. 12	7	7	Uxbridge, &c., 5 p.c.	151—156	+1	151
108,330	,,	,,	5	5	Do. 5 p.c. Pref. ...	118—123	...	...
1,326,700	,,	Aug. 12	7	7	Wandsworth Consolidated ...	155—160	—1	157—160
1,371,373	,,	,,	5	5	Do. 5 p.c. Pref. ...	120—125	—2	122—124½
1,317,964	,,	June 7	5	5	Do. 5 p.c. Deb. ...	125—130	...	...
338,300	,,	,,	4	4	Do. 4 p.c. Deb. ...	105—110	...	...
158,400	,,	Aug. 12	6*g*	5	Winchester W.& G. 5 p.c. Con.	114—119	...	...

Quotations at :—*a*.—Bristol. *b*.—Liverpool. *c*.—Nottingham. *d*.—Newcastle. *e*.—Sheffield. *f*.—The quotation is per £1 of Stock. *g*.—Paid £3, including 10s. on account of back dividends. * Ex. div. † Paid free of income-tax. ‡ For year. § Actual for three months.

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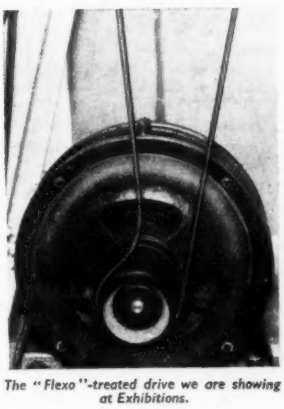

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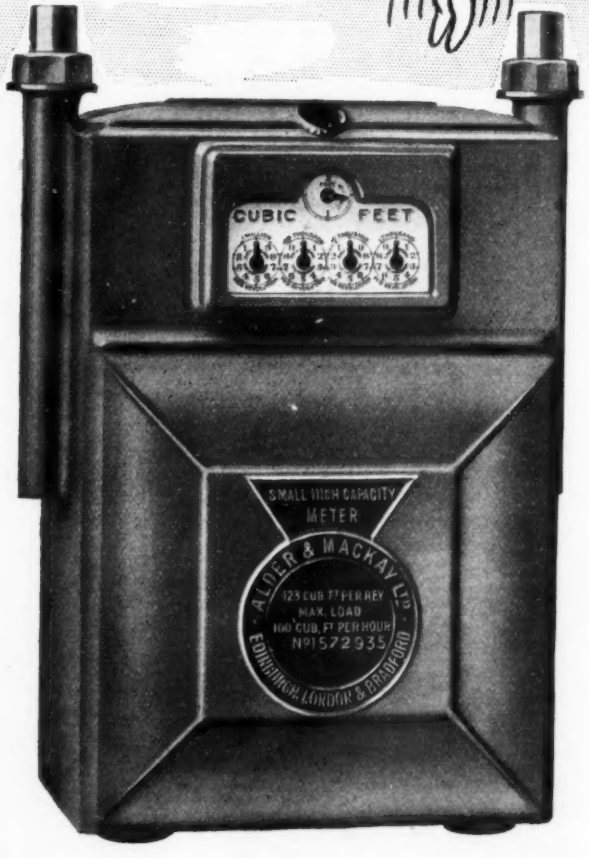

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